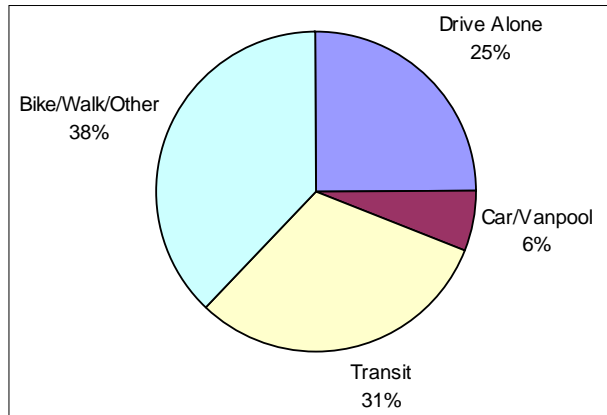


**Figure 2.55 Mode for Work Trips
Originating in Central Washington**



**Figure 2.56 Mode for Work Trips
Into Central Washington**

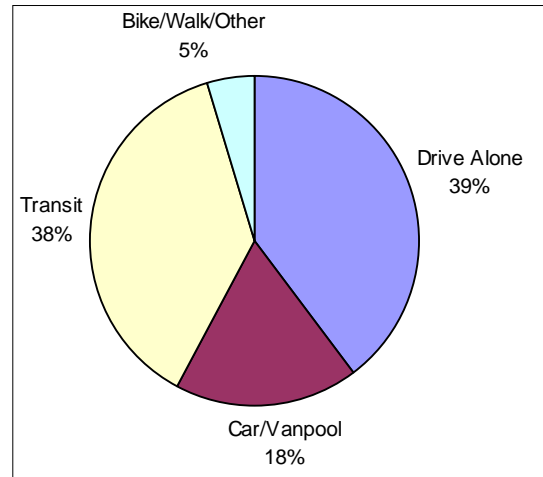


Table 2.11 Mode Split Volume Detail for Trips into Central Washington from All Locations

Central Washington: Planning Area F		Average Weekday Work Trips				
To Central Washington Planning Area F From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	3,326	1,258	3,734	291	8,609
B	Upper Northwest West	6,034	1,986	9,624	808	18,452
C	Mid-City	2,609	1,214	7,714	1,885	13,422
D	Upper Northeast	2,582	909	2,968	202	6,661
E	Near Northwest	2,161	809	5,703	6,770	15,443
F	Central Washington	476	123	928	1,768	3,295
G	Capitol Hill	2,314	802	3,607	1,900	8,623
H	Anacostia Waterfront	997	420	2,562	585	4,564
I	East Washington	1,635	714	2,489	67	4,905
J	Anacostia Upper Southeast	2,600	1,173	3,189	90	7,052
Subtotal Inbound to Area From Within DC		24,734	9,408	42,518	14,366	91,026

To Central Washington - Planning Area F From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	5,823	2,107	2,593	30	10,553
Maryland	Frederick	928	576	534	-	2,038
Maryland	Howard	2,813	797	1,905	24	5,539
Maryland	Montgomery	23,637	7,521	28,505	511	60,174
Maryland	Prince George's	35,102	14,948	22,325	716	73,091
Virginia	Arlington	8,693	3,496	13,774	705	26,667
Virginia	Fairfax	23,990	13,979	17,298	388	55,655
Virginia	Loudoun	2,254	955	589	32	3,830
Virginia	Prince William	3,628	4,181	1,935	135	9,879
Virginia	City of Alexandria	6,821	2,292	5,332	269	14,714
Virginia	City of Fairfax	373	300	323	19	1,015
Virginia	City of Falls Church	394	258	574	27	1,253
	All Other Externals	17,618	9,608	9,616	1,651	38,493
Subtotal Inbound from Outside DC		132,073	61,017	105,304	4,507	302,901
Total Inbound to Area: DC + Outside		156,807	70,425	147,822	18,873	393,927

A key point to note from Table 2.11 and 2.12 is that the mode split pattern from jurisdictions outside DC is markedly different from the patterns observed into other areas of the District, particularly in its higher transit share. Central Washington, through coordinated District and federal policies, has become an area that leads much of the region in its support of readily available transportation choices such as vanpools, carpools, transit, biking or walking, and in its development of an integrated and interconnected transit system. The deliberate balance of incentives such as transit and vanpool subsidies and other transportation demand measures with disincentives for SOVs such as parking limitations and high parking costs, impact workers' behavior and transportation choices.

**Table 2.12 Mode Split Percentage Detail for Trips
into Central Washington from All Locations**

Central Washington: Planning Area F		Percent				Total
To Central Washington Planning Area F From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	
A	Upper Northwest North	39%	15%	43%	3%	100%
B	Upper Northwest West	33%	11%	52%	4%	100%
C	Mid-City	19%	9%	57%	14%	100%
D	Upper Northeast	39%	14%	45%	3%	100%
E	Near Northwest	14%	5%	37%	44%	100%
F	Central Washington	14%	4%	28%	54%	100%
G	Capitol Hill	27%	9%	42%	22%	100%
H	Anacostia Waterfront	22%	9%	56%	13%	100%
I	East Washington	33%	15%	51%	1%	100%
J	Anacostia Upper Southeast	37%	17%	45%	1%	100%
Subtotal Inbound to Area From Within DC		27%	10%	47%	16%	100%
To Central Washington - Planning Area F From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	55%	20%	25%	0%	100%
Maryland	Frederick	46%	28%	26%	0%	100%
Maryland	Howard	51%	14%	34%	0%	100%
Maryland	Montgomery	39%	12%	47%	1%	100%
Maryland	Prince George's	48%	20%	31%	1%	100%
Virginia	Arlington	33%	13%	52%	3%	100%
Virginia	Fairfax	43%	25%	31%	1%	100%
Virginia	Loudoun	59%	25%	15%	1%	100%
Virginia	Prince William	37%	42%	20%	1%	100%
Virginia	City of Alexandria	46%	16%	36%	2%	100%
Virginia	City of Fairfax	37%	30%	32%	2%	100%
Virginia	City of Falls Church	31%	21%	46%	2%	100%
	All Other Externals	46%	25%	25%	4%	100%
Subtotal Inbound from Outside DC		44%	20%	35%	1%	100%
Total Inbound to Area: DC + Outside		40%	18%	38%	5%	

2.3.7 Capitol Hill (D.C. Planning Area G)

Capitol Hill is the second smallest of the D.C. Planning Areas in terms of total work trips. With 36,024 work trips reported by the Census, it has less than one-tenth the volume of work trips as its neighbor, Central Washington. Figure 2.57 shows its location.

Figure 2.57
Capitol Hill



Work Trips Originating In This Area

The Census data records 20,840 work trips originating from this D.C. Planning Area, with 14,955 or more than 70 percent of these trips remaining within the District. As summarized in Figure 2.58 there is major movement into Central Washington, and significant reverse commute movement into the suburbs.

As shown in Figure 2.59, the major destinations in addition to Central Washington are Near Northwest (nine percent of all trips), Upper Northeast, Anacostia Waterfront and Upper Northwest West, each with between 500 and 700 trips per day or roughly three percent each of all trips. None of the RACs generate more than 400 trips per day, or two percent or less of all trips.

Figure 2.58 ***Destination of Work Trips Originating in Capitol Hill***

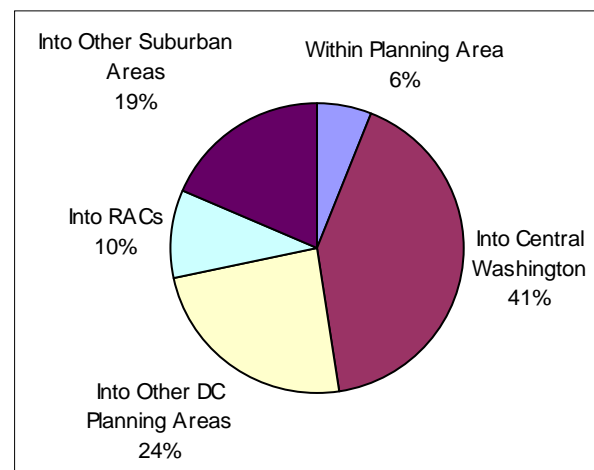
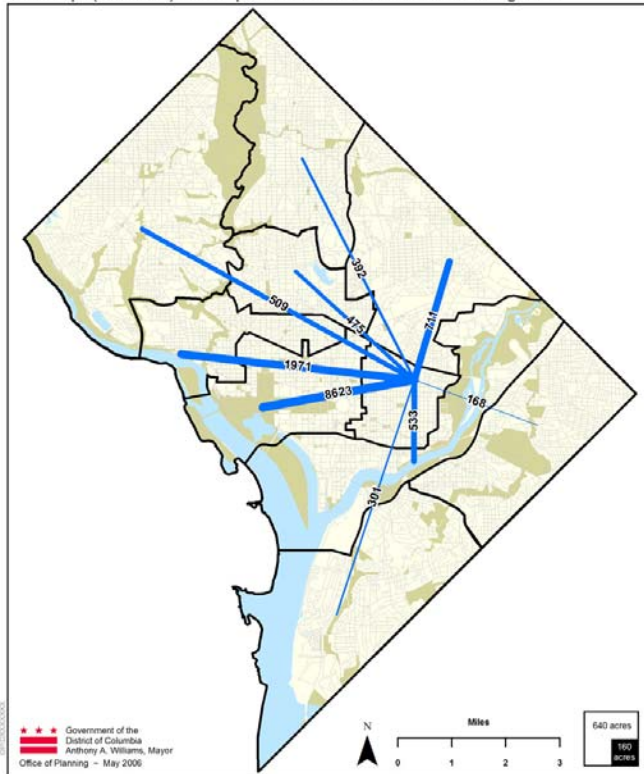
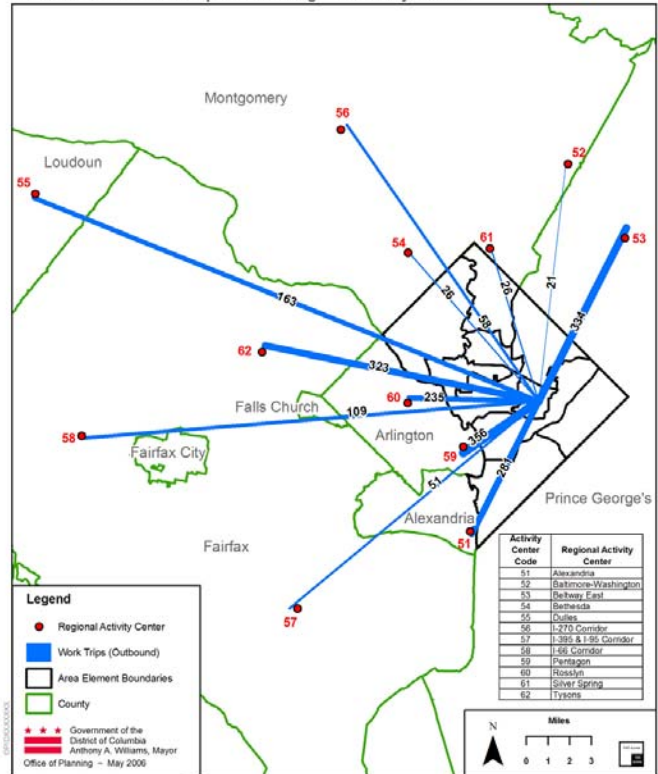


Figure 2.59 Outbound Work Trip Patterns for Capitol Hill

Work Trips (Outbound) from Capitol Hill to the Rest of the DC Planning Areas



Reverse Commute from Capitol Hill to Regional Activity Centers



Work Trips With Destinations In This Area

The Census data records 15,184 work trips into this D.C. Planning Area. As shown in Figure 2.60, nearby Maryland counties represent the largest portion of commuters, though not a majority. Approximately 30 percent of people working in this area are from within the District.

As shown in Figure 2.61 the highest volume of trips into this area is from Prince George's County with 25 percent of all trips, followed by Montgomery County with ten percent of trips and Fairfax County with nine percent. From within the District, Mid-City and Anacostia Upper Southeast are each the source of over 500 work trips per day, or approximately four percent of total trips.

Figure 2.60 Origin of Work Trips with Destinations in Capitol Hill

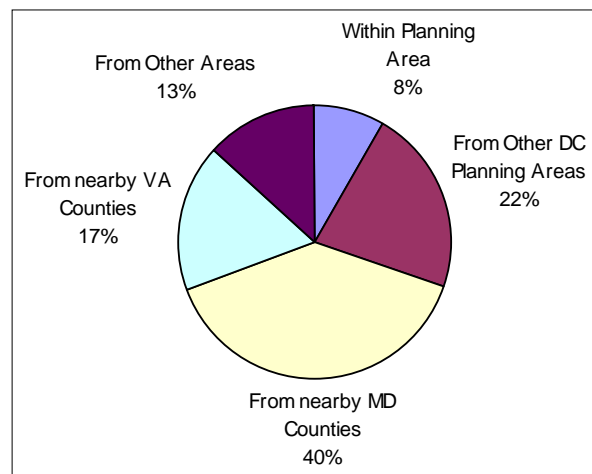
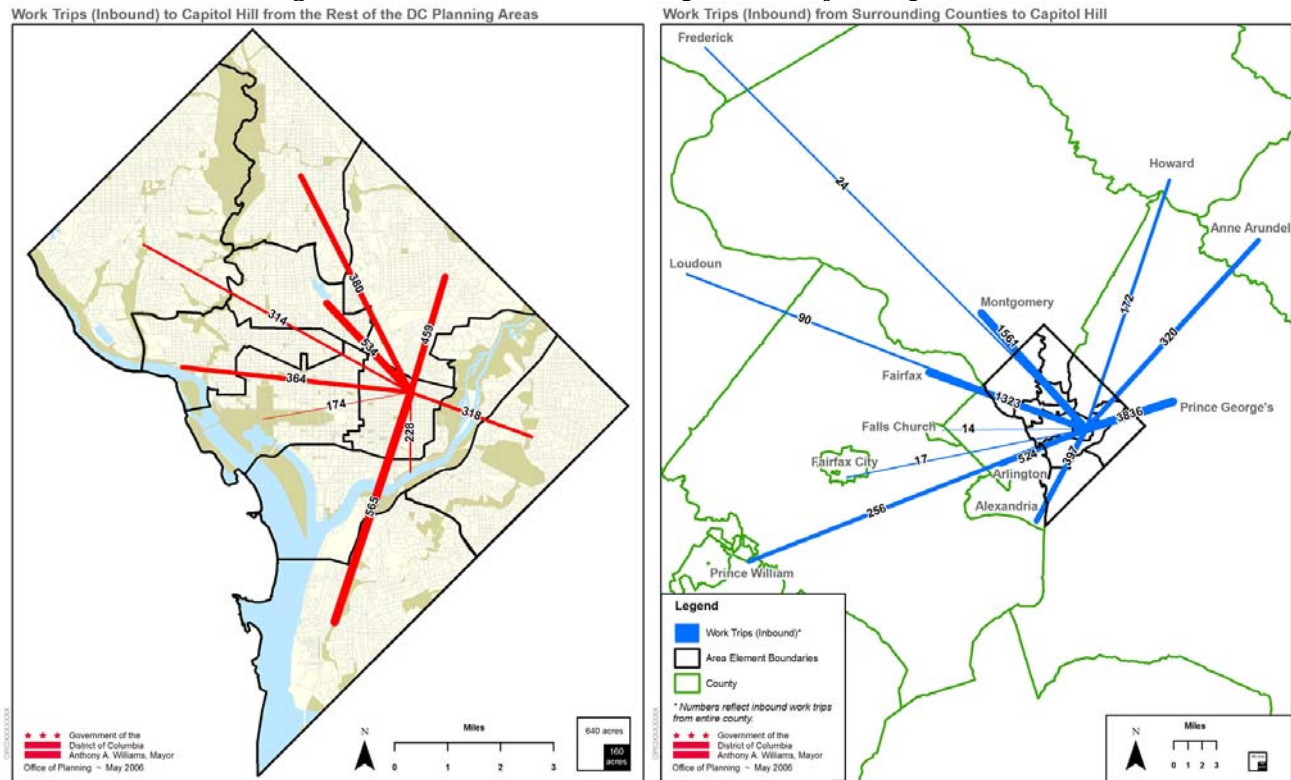


Figure 2.61 Inbound Work Trip Patterns for Capitol Hill



How They Get There: Mode Split

As shown in Figure 2.62, approximately 43 percent of workers from this area drive alone to work (compared with 40 percent for city workers as a whole). Figure 2.63 summarizes trips into Capitol Hill by mode. Capitol Hill ranks third behind Central Washington and Near Northwest in terms of D.C. Planning Areas with the lowest drive alone rate. This is a fair achievement, considering that 70 percent of workers coming into this area are from outside the District. Capitol Hill shares many of the multiple convenient transportation choices and restrictive parking policies of its neighbor in Central Washington, while providing a reasonable balance of housing and employment opportunities.

Figure 2.62 Mode for Work Trips Originating in Capitol Hill

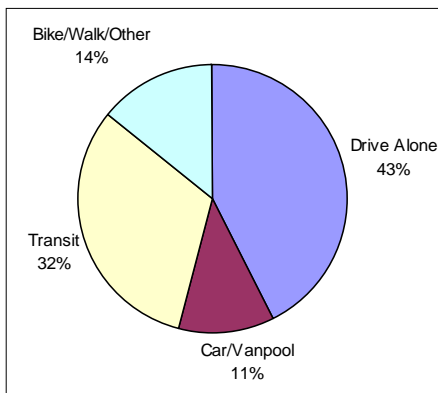
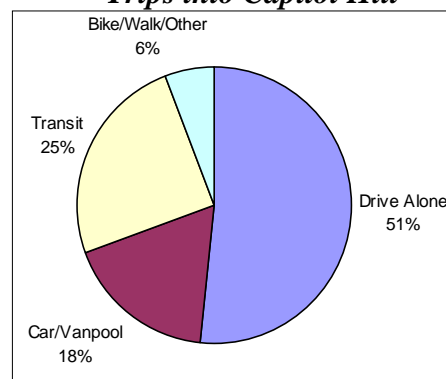


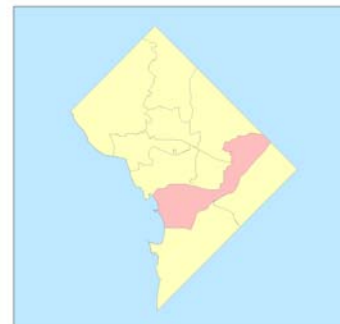
Figure 2.63 Mode for Work Trips into Capitol Hill



2.3.8 Anacostia Waterfront (D.C. Planning Area H)

Anacostia Waterfront is a rapidly redeveloping area, and the focus of extensive public and private investment in transit, streetscapes, community areas, housing, offices and retail establishments. Anacostia Waterfront ranks fourth among D.C. Planning Areas in the District in the number of people coming into the area to work, and ranks second only to Central Washington in the percentage coming into the area (71 percent) versus leaving the area (25 percent). Only four percent of all inbound and outbound trips stay within the area (Table 2.6). For this rapidly-changing area in particular it is important to remember that the data for the work trip analysis comes from the 2000 Census, and it is likely that volumes and patterns of travel have changed in the interim, and will change even more as more aspects of the plan are carried out. Figure 2.64 shows the extent of this area and its strategic location in the District.

Figure 2.64
Anacostia Waterfront



Work Trips Originating In This Area

The Census data records 12,349 work trips originating from this D.C. Planning Area, with 8,713 or approximately 70 percent of these trips remaining within the District. Only Central Washington has fewer trips originating in the area. As summarized in Figure 2.64 approximately 71 percent of work trips originating in this area remain within the District.

As shown in Figures 2.65 to the right and 2.66, below, most of the workers from Anacostia Waterfront are commuting to Central Washington. The next highest volume is to Near Northwest, with approximately nine percent of all trips leaving the area. The rest of the trips within the District are spread fairly evenly across the entire city ranging from 150 to just over 400 daily trips apiece, and most close to 300, or about two percent of all trips. The only RAC with a significant concentration of trips is the Pentagon, with just under 300 trips per day, or about two percent of the totals.

Figure 2.65 Destination of Work Trips
Originating in Anacostia Waterfront

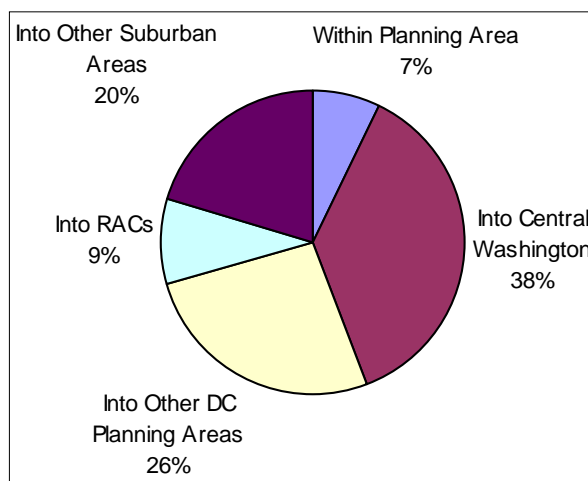
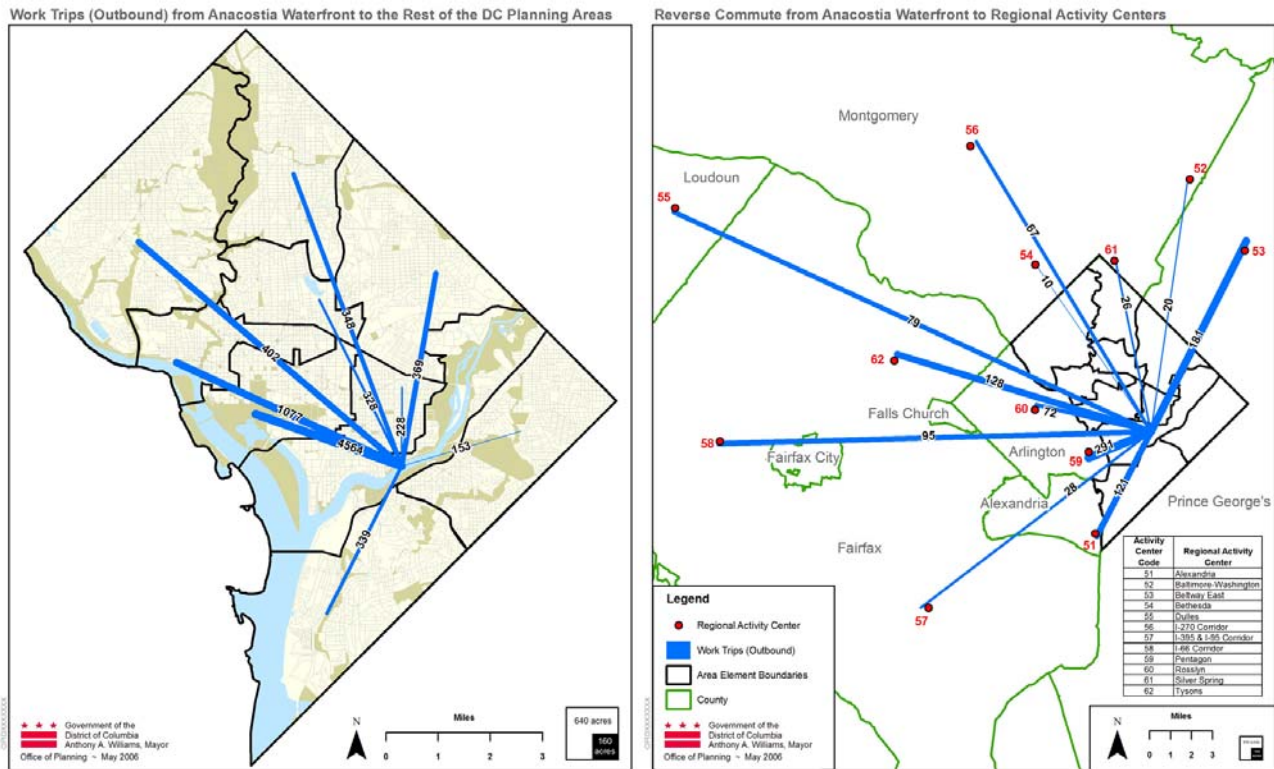


Figure 2.66 Outbound Work Trip Patterns for Anacostia Waterfront



Work Trips With Destinations In This Area

The Census data records 32,815 work trips into this D.C. Planning Area. As shown in Figure 2.67, trips are fairly evenly balanced between Maryland and Virginia, and trips from within the District are a minority.

As shown in Figure 2.68 the highest volume of trips into this area is from Prince George's County, accounting for 21 percent of trips from all area. Fairfax County is the source for 17 percent of trips. Montgomery County accounts for six percent, and Anne Arundel County, Arlington County, Prince William County and the City of Alexandria account for approximately four percent each. From within the District, Anacostia Upper Southeast is the source for seven percent of all trips inbound. All other areas of the District are the source for two percent or less of the trips.

Figure 2.67 Origin of Work Trips with Destinations in Anacostia Waterfront

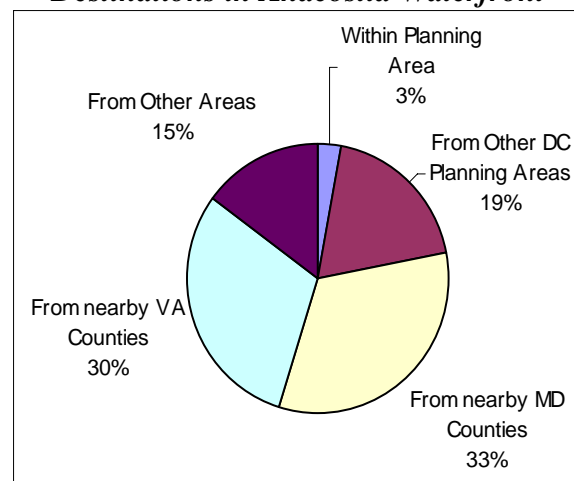
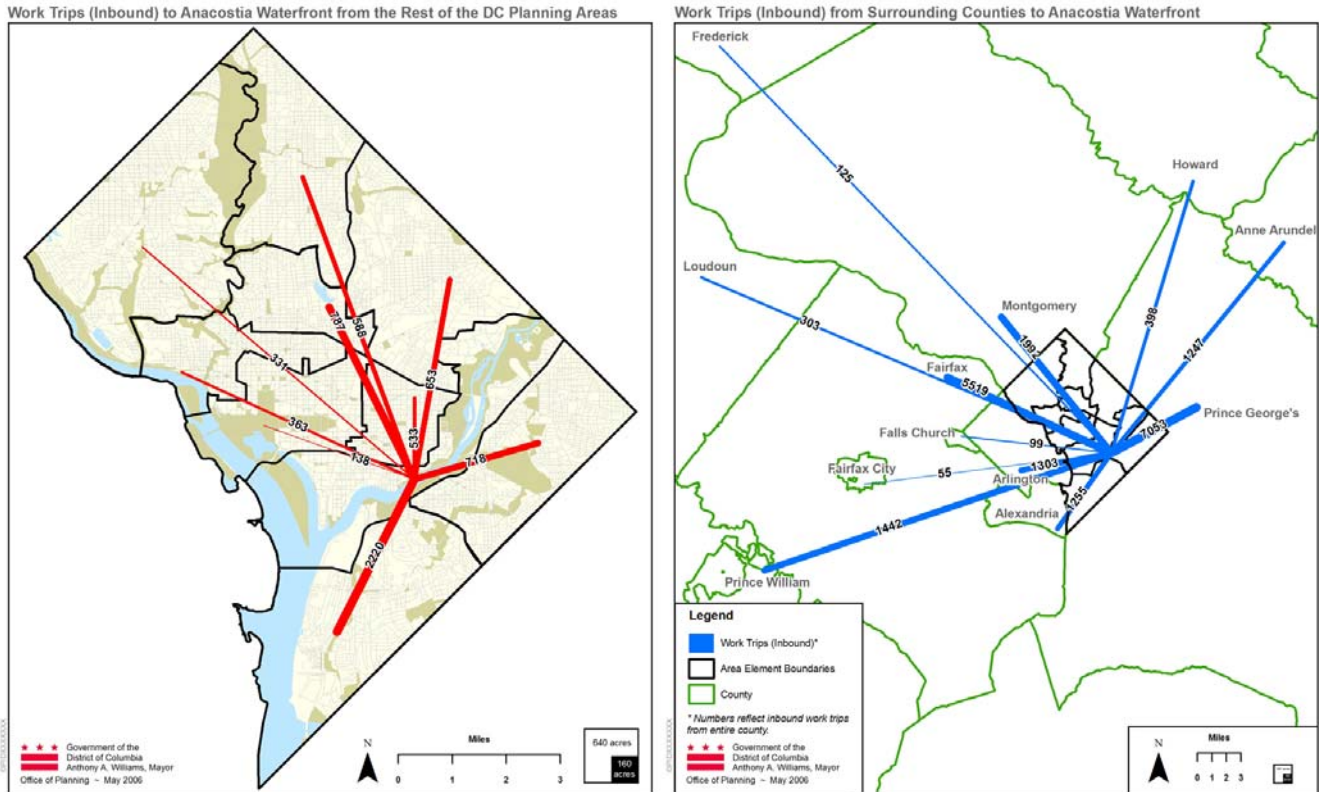


Figure 2.68 Inbound Work Trip Patterns for Anacostia Waterfront



How They Get There: Mode Split

As shown in Figure 2.69, approximately 38 percent of workers from this area drive alone to work, better than the citywide average of 40 percent for District workers as a whole. The 40 percent transit share ranks Anacostia Waterfront second only to Mid-City’s 42 percent share.

Anacostia Waterfront stands out with the highest carpool/vanpool percent of any D.C. Planning Area for inbound trips, with most of those shared-ride trips coming from Prince George’s County and Fairfax County. There is a marked difference in rate of carpool/vanpool use between District workers coming into this area at 13 percent of all work trips, and workers from outside the District, at 21 percent of all work trips. The SOV rate of 62 is typical of the non-core areas of the city. District residents coming to this area have an SOV rate of 48 percent, with 24 percent transit use, while workers coming in from outside the District have a 66 percent SOV rate, and 11 percent transit use. As summarized in Figure 2.70, mode split for trips inbound to Anacostia Waterfront is similar to the “non-core” patterns described in association with Table 2.10.

Figure 2.70 Mode for Work Trips Into Anacostia Waterfront

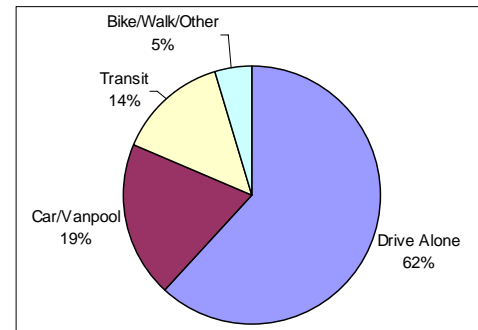
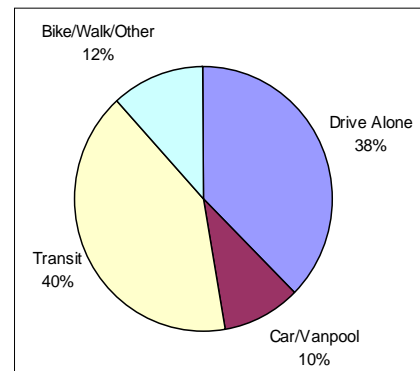


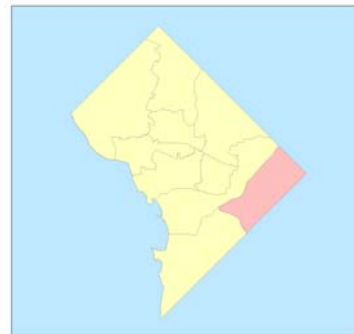
Figure 2.69 Mode for Work Trips Originating in Anacostia Waterfront



2.3.9 East Washington (D.C. Planning Area I)

East Washington is the smallest of all the D.C. Planning Areas in terms of the number of work trips into or out of the area. It is almost a mirror image of Anacostia Waterfront in terms of the imbalance between work trips in and work trips out: the split for East Washington is 18 percent for trips with destinations in the area (inbound), 76 percent for trips leaving the area (outbound) with only six percent both living and working in the area. Figure 2.71 illustrates East Washington's location in the eastern corner of the District.

Figure 2.71
East Washington



Work Trips Originating In This Area

The Census data records 16,187 work trips originating from this D.C. Planning Area, with 9,970 of these trips remaining within the District. As summarized in Figure 2.72 there is an almost even distribution of trips going into Central Washington and into other DC Planning Areas, with a somewhat larger share going into the suburbs. Less than four percent of workers both live and work in East Washington, the lowest percentage for any D.C. Planning Area for outbound trips.

As shown in Figures 2.72 and 2.73, most of the workers from East Washington are commuting to Central Washington, with the next highest volume going to Near Northwest with eight percent of all trips. All other Planning Areas in the District host from two percent to four percent of trips from this area. Although 38 percent of the outbound trips leave the district, the only RAC that captures more than one percent of the trips is the Pentagon; the majority of trips outside the District are also outside the RACs.

Figure 2.72 Destination of Work Trips Originating in East Washington

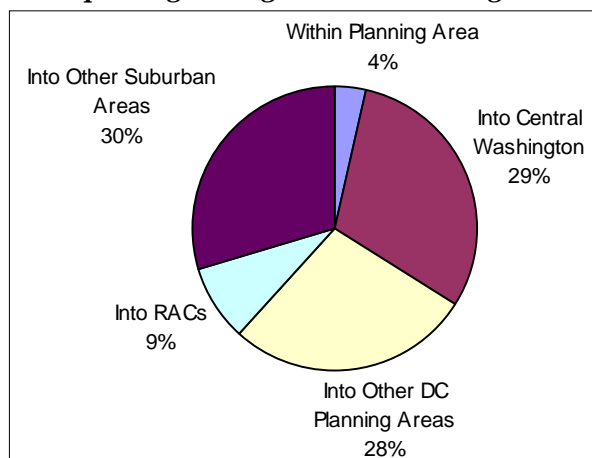
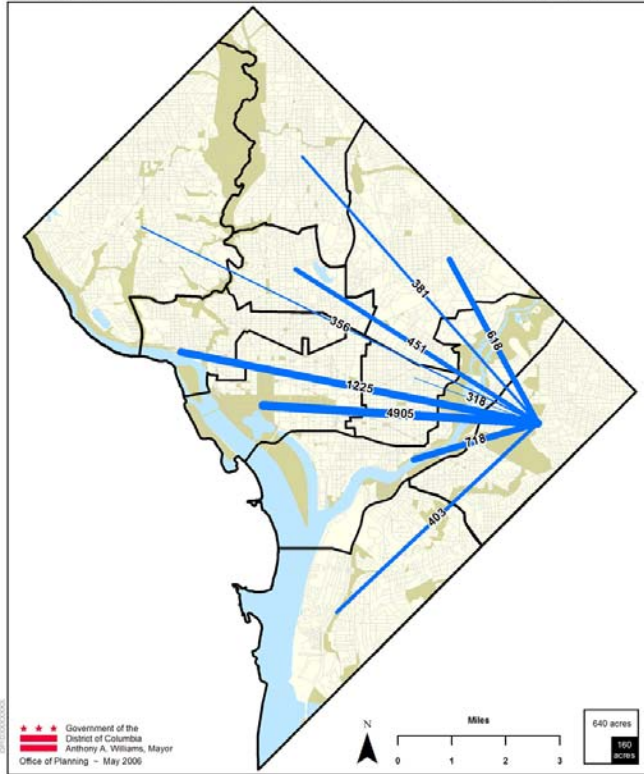
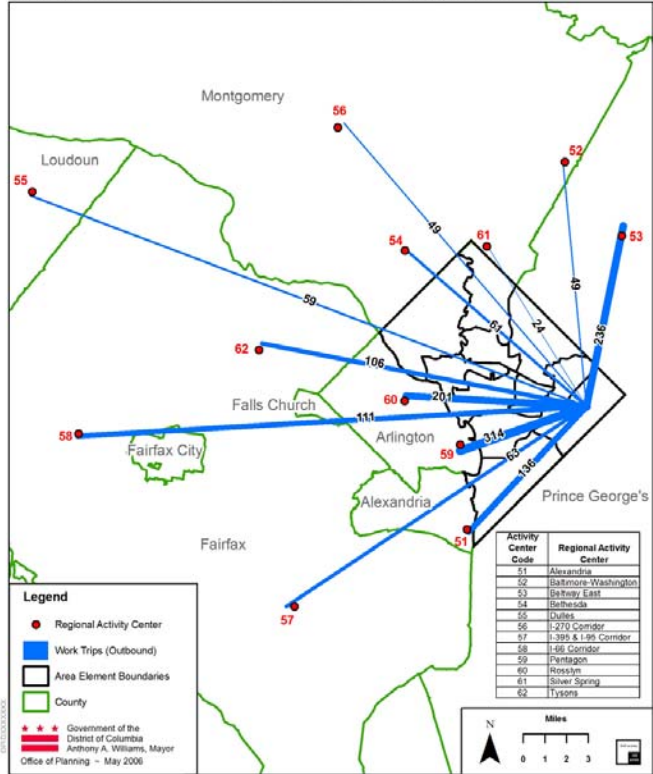


Figure 2.73 Outbound Work Trip Patterns for East Washington

Work Trips (Outbound) from East Washington to the Rest of the DC Planning Areas



Reverse Commute from East Washington to Regional Activity Centers



Work Trips with Destinations in This Area

The Census data records only 4,384 work trips into this D.C. Planning Area, by far the lowest in the District. As shown in Figure 2.74, and as might be expected due to location, there are slightly more trips coming from nearby Maryland counties than are coming from within the District, including those that both reside and work in the area.

As shown in Figure 2.75 and as expected, the highest volume of trips into this area is from Prince George's County at 35 percent of all trips, followed by Montgomery County at seven percent and Fairfax County at four percent of trips. From within the District, Anacostia Upper Southeast and Upper Northeast each generate approximately five percent of all trips into East Washington, with Capitol Hill generating about four percent of the trips.

Figure 2.74 Origin of Work Trips with Destinations in East Washington

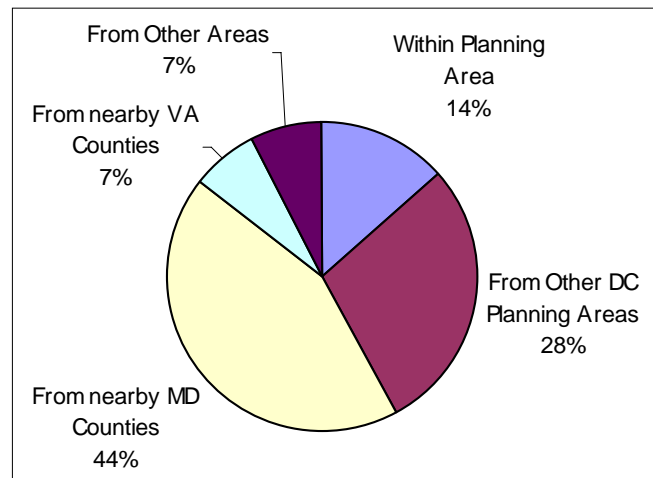
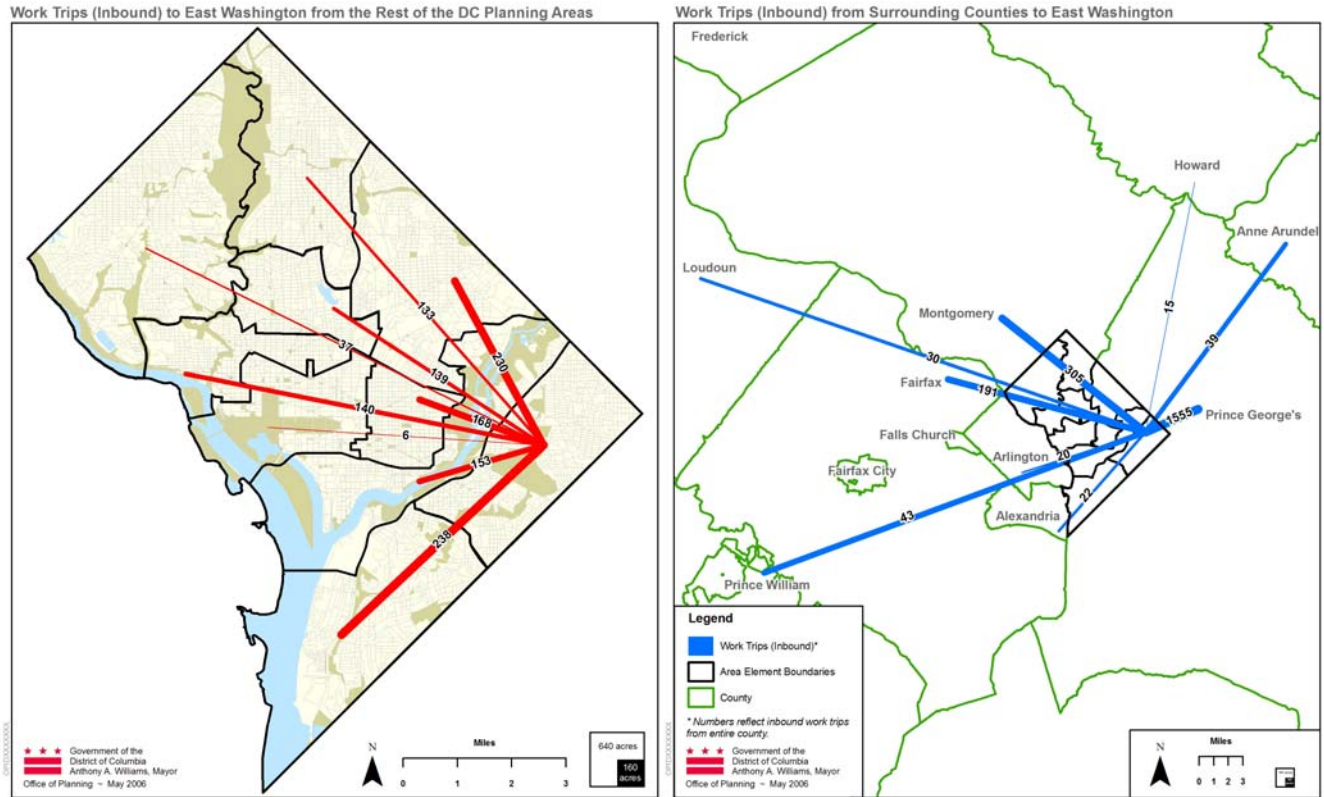


Figure 2.75 Inbound Work Trip Patterns for East Washington



How They Get There: Mode Split

As shown in Figure 2.76, approximately 46 percent of workers from this area drive alone to work (compared with 40 percent for city workers as a whole), while 16 percent car/vanpool, 35 percent use transit, and only three percent use other modes – the lowest rate for “Other” modes in the District.

Figure 2.76 Mode for Work Trips

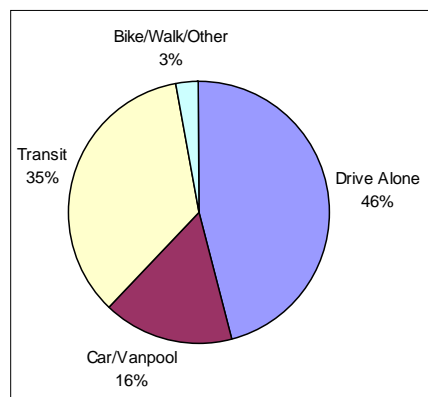
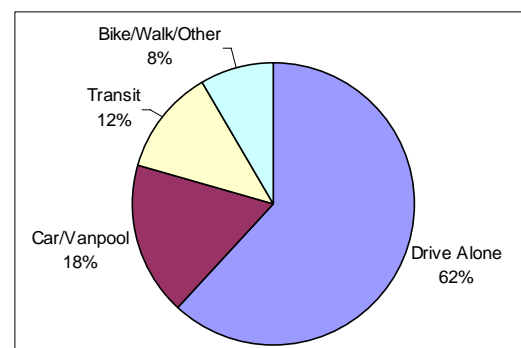


Figure 2.77 Mode for Work Trips



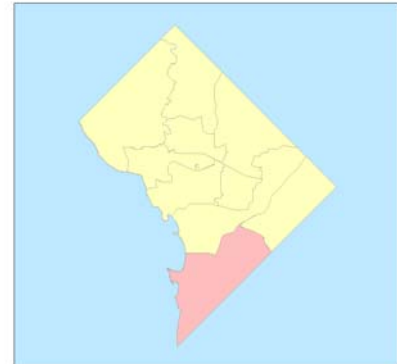
As shown in Figure 2.77, East Washington follows the now-familiar pattern for the non-core areas: high SOV rates, and car/vanpool rates higher than transit rates. While workers coming into this area from

within the District achieve an SOV rate of 47 percent with 20 percent transit use, workers from outside the District have an SOV rate of 73 percent with only seven percent using transit.

2.3.10 Anacostia Upper Southeast (D.C. Planning Area J)

Anacostia Upper Southeast is more a source of labor than a source of jobs, similar to Capitol Hill in the number of trips and the split between work trips coming into the area (35 percent), work trips leaving the area (55 percent), and trips starting and ending within the area (ten percent). Figure 2.78 illustrates the location within the District.

Figure 2.78 Anacostia/Upper Southeast



Work Trips Originating In This Area

The Census data records 22,427 work trips originating from this D.C. Planning Area, with 16,525 or approximately three-quarters of these trips remaining within the District. As summarized in Figure 2.79 just under one-third of the trips go into Central Washington, and over one-third go to other D.C. Planning Areas in the District.

As shown in Figure 2.80, most of the workers from Anacostia Upper Southeast are commuting to Central Washington, with the next highest volume going to Anacostia Waterfront for ten percent of all trips. Near Northwest is the destination for eight percent of all trips. Regarding trips outside the District, Pentagon/Crystal City, Activity Center 59 is the destination for three percent of all trips. Trips to other RACs account for one percent of all trips or less.

Figure 2.79 Destination of Work Trips Originating in Anacostia Upper Southeast

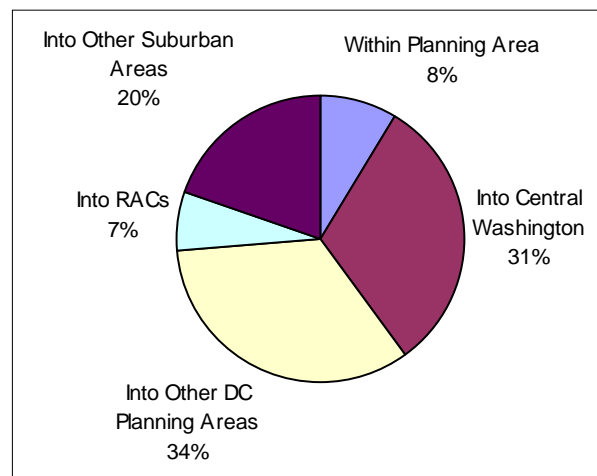
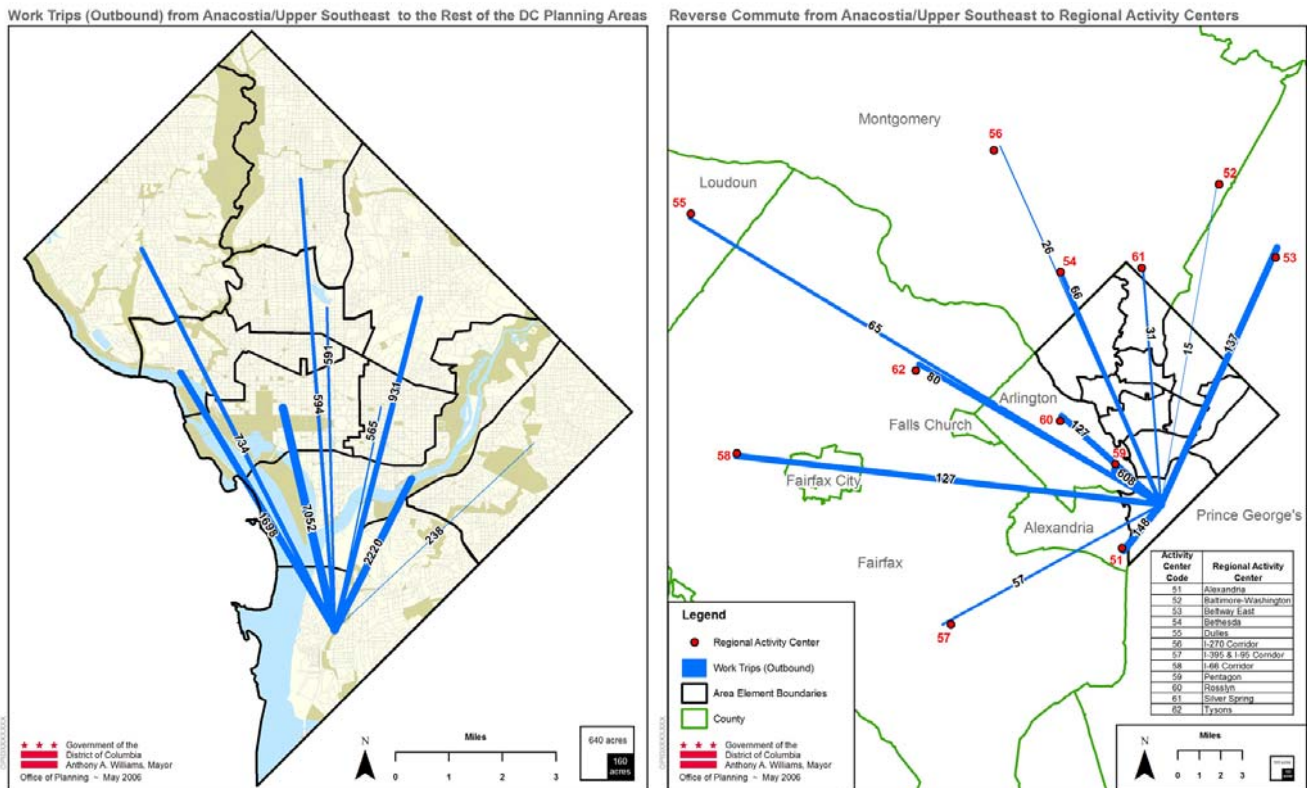


Figure 2.80 Outbound Work Trip Patterns for Anacostia/Upper Southeast



Work Trips With Destinations In This Area

The Census data records 14,875 work trips into this D.C. Planning Area. As shown in Figure 2.81, less than one-third (31 percent) of these trips are from within the District, with nearby Maryland counties supplying the bulk of the workers.

As shown in Figure 2.82 the highest volume of trips into this area is from Prince George's County (a full 33 percent of all trips), followed by Fairfax County with nine percent of all trips, and Montgomery County with seven percent of trips. From within the District, East Washington is the source of just over 400 trips, for three percent of all trips.

Figure 2.81 Origin of Work Trips with Destination in Anacostia Upper Southeast

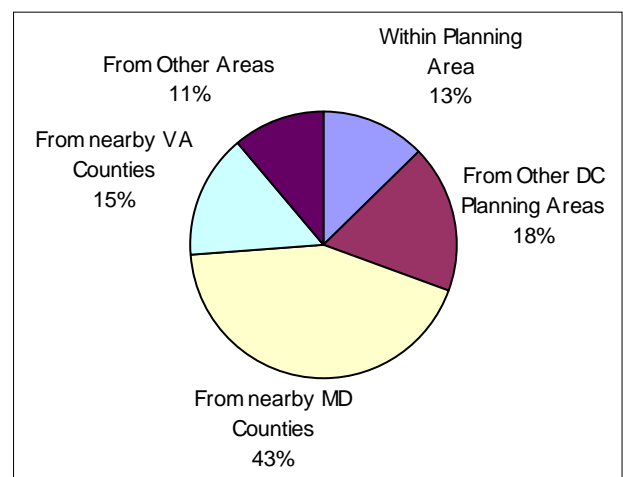
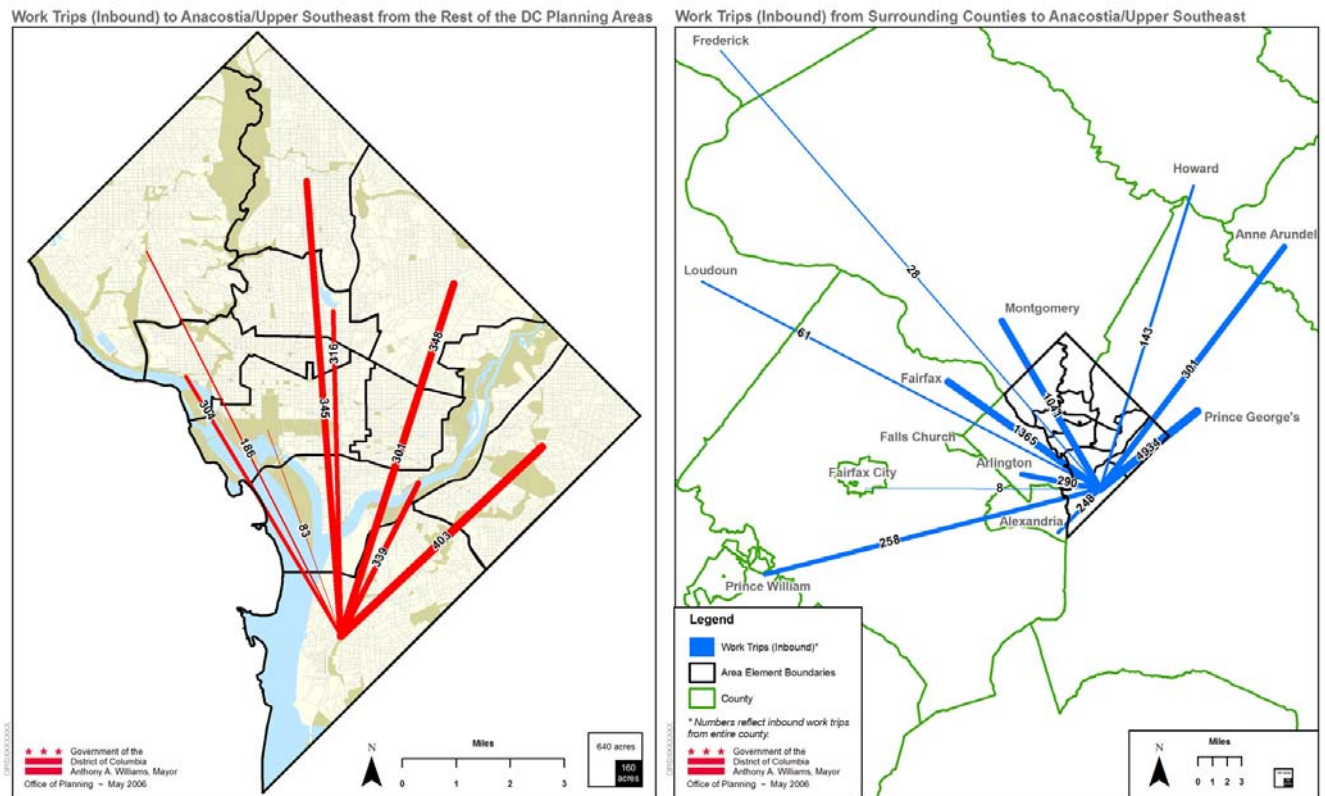


Figure 2.82 Inbound Work Trip Patterns for Anacostia/Upper Southeast



How They Get There: Mode Split

As shown in Figure 2.83, approximately 44 percent of workers from this area drive alone to work (compared with 40 percent for city workers as a whole). For trips within DC the SOV rate is 39 percent, while for trips outside the District the SOV rate is 55 percent. Anacostia Southeast is tied for first place with East Washington for the highest percent of workers from the area commuting by carpool or vanpool at 16 percent.

Figure 2.83 Mode for Work Trips Originating in Anacostia Upper Southeast

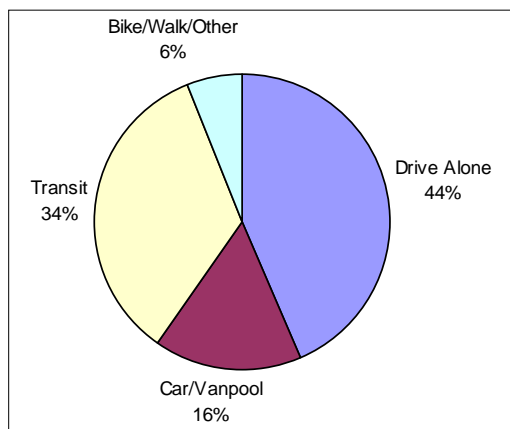
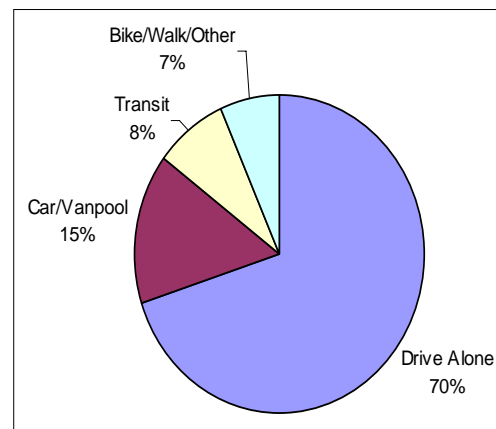


Figure 2.84 Mode for Work Trips with a Destination in Anacostia Upper Southeast



Work trips coming into Anacostia Upper Southeast are summarized in Figure 2.84. Work trips coming into Anacostia Upper Southeast have the highest SOV rate in the District. Although workers coming into the area from within the District average 45 percent SOV, a full 81 percent of workers from outside the District are driving in alone. The percentage of workers using carpools or vanpools is identical for workers from within the District and outside. The biggest differences are in transit use (21 percent within the District, two percent for those coming from outside the District) and use of other modes (19 percent within the District, one percent from outside the District.)

2.4 Desire Line Analysis Summary and Conclusions

The Desire Line Analysis provides an overview of work travel patterns into and out of the ten Planning Areas in the District, including the mode by which people travel and the similarities and differences in travel patterns between the District Planning Areas. The analysis highlights the existing opportunities and constraints of these travel patterns across three different themes.

The first theme is the balance between jobs and households in each D.C. Planning Area. The methodology involved looking comparatively at the percentage of outbound work trips per D.C. Planning Area, inbound work trips, and trips that stay within the planning area. The findings show that the highest number of trips staying within the area also demonstrate the highest percentages of people using “other” modes to get to work, such as bicycle and walking. This finding reinforces current planning recommendations that suggest that policies encouraging mixed-use development also support sustainable transportation.

A second theme is the notion of the reverse commute. This technical report defines Regional Activity Centers (RACs) as workplace destinations outside the District but within the Metropolitan area that attract concentrations of trips from the D.C. Planning Areas. A smaller proportion of reverse commute trips leaving the District go to RACs than to other employment areas in the surrounding counties. This suggests that coordination of car pools and van pools to dispersed work sites should continue as a high priority tactic to increase mobility and transportation efficiency.

The third major theme is the prevalence of incoming single-occupancy vehicles (SOV) into each District Planning Area. This pattern was determined by comparing trips inbound from within the District to trips inbound from outside the District. The analysis also finds that the central District Planning Areas, with the most transportation choices and with policies that to some extent discourage SOVs, have achieved a high use of transit and van pools / car pools, and a lower SOV rate, for trips from outlying jurisdictions. For example, the mode split for incoming trips coming to Central Washington from outside the District is 44 percent SOV and 56 percent transit (van pool/car pool or other).

Understanding the existing transportation balance provides a good foundation for examining future choices in land use and transportation.

3 Land Use Analysis

3.1 Introduction

This transportation analysis describes the impact that projected population, employment, and associated land use changes in the District will have on the transportation system in the broader metropolitan Washington area and also in the City itself. This technical report analyzes both the socioeconomic impact of future growth in the region and the degree to which the transportation improvements and policies as proposed in the Comprehensive Plan will address the potential impacts of increased congestion and delay. The major corridors selected for this analysis are drawn from the Draft District of Columbia 2030 Transportation Vision Plan Action Plan (2006).

In 2005, the population of Washington, D.C. was estimated to be approximately 578,000 and the number of jobs was 745,400. Future projections to 2025 from the Office of Planning indicate the District's population will grow to 699,600 and employment will increase to 870,400. These figures indicate increases of 21.0 percent and 16.8 percent, respectively. These increases will place greater demands on a transportation system that has already reached capacity in many of its corridors. Not only will the District experience growth, but the region as a whole will undergo significant growth, putting even more pressure on the District's highway and transit system as commuter traffic increases both to and from the District.

In order to understand the impacts of future growth on the District's transportation system, it is important to understand the existing traffic patterns and mode split. The first section of the technical report is a desire line analysis, which identified patterns and volumes of work travel within the various Planning Areas in the District, from Planning Areas to various employment centers in the region, and from various counties in the region into the District Planning Areas. Not only did the analysis show where people are going to and coming from, but it also identified their mode of transportation. This analysis will serve as the basis for identifying potential areas that require significant improvements to their transportation system especially in the areas of public transit. The desire line analysis is also used to identify areas where there may be the greatest potential benefits for improving the multimodal transportation system.

The desire line analysis findings show that land use patterns that balance employment and housing in an area increase the proportions of people walking or bicycling to work. The findings also show that land use patterns that encourage development around metro stations and major transit facilities increase transit ridership, as demonstrated by the higher transit shares in specific Planning Areas.

The data in the land use analysis shows that higher densities of both population and employment around transit facilities will play a significant role in accommodating future growth while mitigating and minimizing traffic congestion. In addition to promoting efficient land use patterns, implementation of transportation demand management (TDM)³ and transportation

³ Programs designed to reduce demand for transportation through various means, such as the use of transit and of alternative work hours. See Section 1.3.2 for a more detailed description

system management (TSM)⁴ programs will be an important component of the transportation improvement program of the future.

This section of the report is divided into two parts. The first part describes how the transportation analysis was conducted, and the second part presents the findings and conclusions.

3.2 Methodology

This methodology is a general description of the approach used to estimate the impact of the proposed land use changes on transportation. Appendix A contains a more detailed description of the methodology.

The first step in the methodology involved analyzing the 2002 Average Annual Daily Vehicle Traffic (AADT) Counts. These figures are utilized by the District Department of Transportation and based on observations throughout the year in different sections of the road network. Subsequently, the 17 corridors identified in DDOT's Action Plan were utilized to assess the impact of the projected land use changes in each Planning Area and within segments of each specific corridor.

The base level for future vehicle traffic was obtained through the use of the latest version of the Travel Demand Forecasting Model from the Metropolitan Washington Council of Governments (MWCOC), with modifications to population, households and employment within the District developed by the DC Office of Planning. The MWCOC model is used to estimate the future segment traffic based on inputs such as the proposed land use (population, households and employment), roadway characteristics (number of lanes, width, signals, etc.) and constrained transit services (capacity and frequency of different routes of Metro, buses, etc.), assumed to remain constant in the future (for what is called the "no-build" scenario.) An additional analysis was required to estimate the impact that an expanded transit system would have on the current transportation system. By comparing the current and future volumes from the model for each relevant segment, person-trip growth as well as traffic growth between 2005 and 2025 was estimated. In addition, for corridors where dedicated bus lanes or street car lanes are proposed (e.g., Georgia Avenue), or where new roadway and transit capacity is proposed (e.g., the Capitol Street Bridge), the change in transit or roadway capacity was included in the analysis.

Particular attention was given to the three periods when the daily traffic could be examined: AM peak, PM peak and Off peak periods. Certain corridors have measures in place to accommodate peak directional flows, such as employing reversible lanes or restricting parking to provide an additional lane during peak periods. Traffic volumes are weighted in corridors with fixed numbers of lanes in either direction to account for the peak directional flow. As congestion increases, much of the future traffic growth will occur in the off-peak periods especially where the corridor traffic has reached a saturation point. The shifting and expansion of congestion into the off-peak periods is a condition that has been experienced by many other large urbanized

⁴ Actions that improve the operation and coordination of transportation services and facilities. See Section 1.3.2 for a more detailed description

areas and was accounted for by the MWCOG model through the application of the traffic assignment procedure.

The transit volumes were obtained from previous studies performed by DMJM Harris for WMATA. These studies include transit runs, or model runs, that incorporate the latest transit plans that WMATA considers for future operations, including streetcars, light rail and bus rapid transit in different corridors. These model runs produced estimates of existing and future transit mode shares⁵. Using the observed average vehicle occupancy (from the 2000 Census) vehicle trips were converted to auto person trips. With the development of auto person trips and the transit mode shares, estimates of the total person trips were made.

Three future scenarios were considered as part of the analysis. Each scenario assumed different levels of TDM and TSM activities and improvements. TDM programs are city wide projects that have multiple objectives. They aim to shift trips from auto to transit or other alternative modes, shift trips to off-peak periods, and reduce the number of trips made altogether, thereby mitigating the impact of the anticipated growth for the proposed land use changes. TSM activities are usually developed on a project- or corridor-level basis. For the purpose of this analysis, Scenario 1 corresponds to a low level of TDM/TSM activities, Scenario 2 corresponds to a medium level, and Scenario 3 corresponds to a high level of TDM/TSM.

The analysis classified the operating characteristics of the 17 corridors in three levels: under-capacity, at-capacity and over-capacity. For purposes of this report for the Comprehensive Plan, any segment that operates over-capacity after the implementation of a district or regional level TDM/TSM program may require additional specific transportation improvements at the corridor level to mitigate the impact of the growth in traffic.

3.3 Land Use Analysis

The results of this analysis are focused primarily in a corridor-specific context. To better understand the context of these results, it is beneficial to examine land use trends occurring in the Planning Areas as well as the entire Washington metropolitan area. Key land use changes occurring both inside and outside the District can have a prominent effect on the District's transportation system. For example, intense employment growth in the District, coupled with residential growth in other parts of the region may indicate increased in-commuting, which is an important consideration in transportation planning. Section 3.3.1 describes some of these key trends and sets the regional context for the detailed corridor analysis which follows.

3.3.1 Forecasts in Land Use Changes

Demographic and socioeconomic forecasts essentially are forecasts of land use trends. The growth in the numbers of households and jobs in this region typically are symptoms of development or redevelopment of residential and commercial land, respectively. As a result, it is appropriate to use these forecasts to analyze anticipated land use changes in the region and what

⁵ Transit Mode Share describes the percentage of trips using public transit.

impact they will have on the District's transportation system. The desire line analysis provides the historic context for these forecasts in terms of the number of person work trips and mode split between specific areas. This section describes more generally the forecasts themselves on a corridor by corridor basis, and characterizes the relationship between land use changes occurring within and outside of the District of Columbia and what they mean for the District's transportation system.

The Metropolitan Washington Council of Governments (MWCOC) periodically prepares demographic forecasts of population, households and jobs for every jurisdiction in the region. This is a cooperative process whereby each jurisdiction prepares its own set of forecasts and submits it to MWCOC. MWCOC reconciles these forecasts by working with a regional committee to ensure the sum of the forecasts are consistent with a regional econometric model, which serves as an upper constraint. These forecasts are prepared at the small-zone level and are then aggregated to constitute the jurisdiction level forecasts. The small-zone forecasts are used in the transportation planning and analyses process and the forecasts are key inputs into complex transportation studies and other modeling efforts. In these studies, the zones are more commonly referred to as transportation analysis zones, or TAZs. For this study, DCOP developed revised population, household and employment forecasts within the District at the TAZ level to reflect emerging and proposed changes in land use that were not reflected in the most recent⁶ version of the MWCOC Round 6.3 Cooperative Forecasts, which were completed in August 2003. The revised forecasts reflect recent trends in redevelopment, employment changes such as the proposed closing of Walter Reed Hospital, and wide-spread policy implementation such as mixed-use zoning and higher density development around transit stations.

Tables 3.1 through 3.3 and Figures 3.2 through 3.4 present the forecasts of population, households and jobs in the respective Planning Areas identified for the District's comprehensive planning process (as shown in Figure 2.1). The tables and graphs show that population, household and job growth are expected to keep pace with one another in the District over the long-term to 2025. Because of this, the District is expected to remain one of the few jurisdictions in the region with more jobs than residents, underscoring its position as the regional job center. Arlington County, Virginia, is the only other jurisdiction in the region that also has more jobs than residents. There are approximately 77 to 80 residents for every 100 jobs in the District in each of the forecast years in the District. As shown in the desire line analysis, approximately 27 percent of D.C. residents currently commute to other jurisdictions. Some portion of these residents may in the future be able to work within the District, and it is likely that the majority of the new residents in the District will work within the District, consistent with the current pattern. Nevertheless, there will still be significant in-commuting from the suburbs to fill available jobs.

⁶ Most recent version available at the initiation of the study

Table 3.1 Household Forecasts for Washington, DC, by Planning Area

DC Planning Area	Households *					Percent Change		
	2000	2005	2010	2020	2025	00-10	10-20	20-25
Upper NW N	24,495	24,625	24,760	26,831	28,024	1.1%	8.4%	4.4%
Upper NW W	40,525	41,642	41,847	43,505	44,554	3.3%	4.0%	2.4%
Mid-City	36,555	38,306	39,848	43,694	45,026	9.0%	9.7%	3.0%
Upper NE	25,044	25,105	25,432	29,081	30,082	1.5%	14.3%	3.4%
Near NW	33,324	34,885	36,682	39,349	40,744	10.1%	7.3%	3.5%
Central DC	5,154	7,939	10,197	14,291	16,349	97.9%	40.2%	14.4%
Capitol Hill	21,895	22,326	22,973	24,758	25,391	4.9%	7.8%	2.6%
Anac Wf	10,702	10,105	12,245	17,118	20,349	14.4%	39.8%	18.9%
East DC	27,763	26,677	27,671	29,387	30,909	-0.3%	6.2%	5.2%
Anac Upper SE	22,883	23,065	24,069	27,571	30,328	5.2%	14.6%	10.0%
DC Total	248,338	254,675	265,722	295,586	311,756	7.0%	11.2%	5.5%

* Information provided by DC-OP

Note: In this and the following two tables, highlighted figures represent the areas with growth greater than eight percent during the period.

Figure 3.2 Projected Households by Planning Area

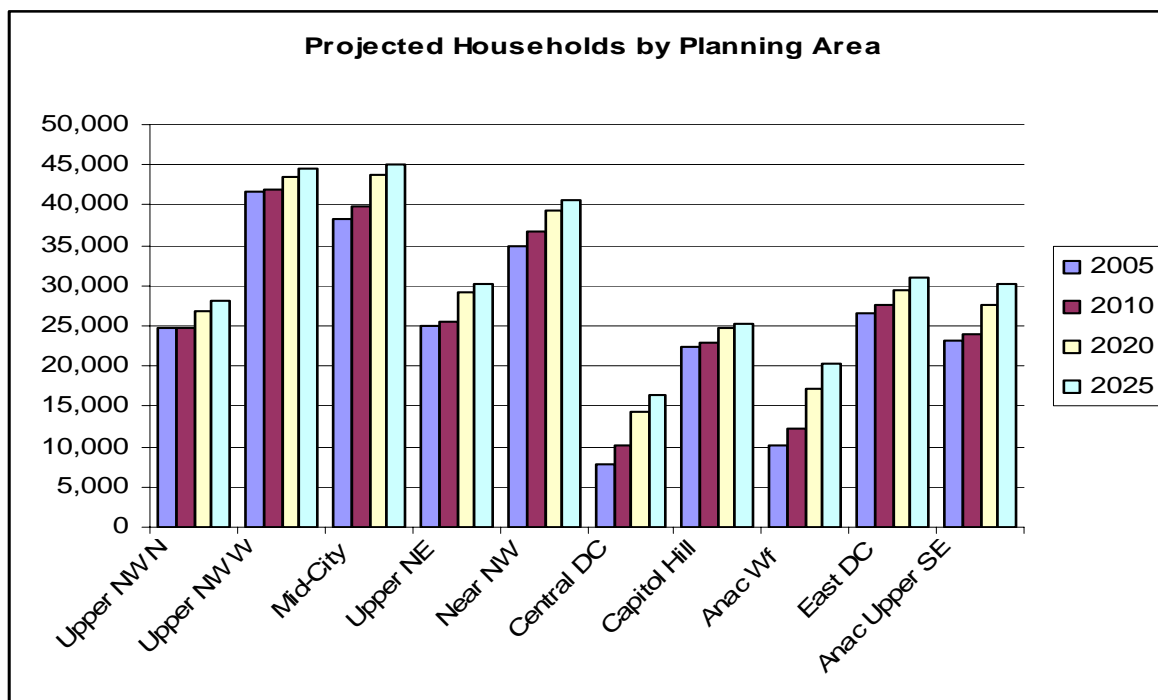
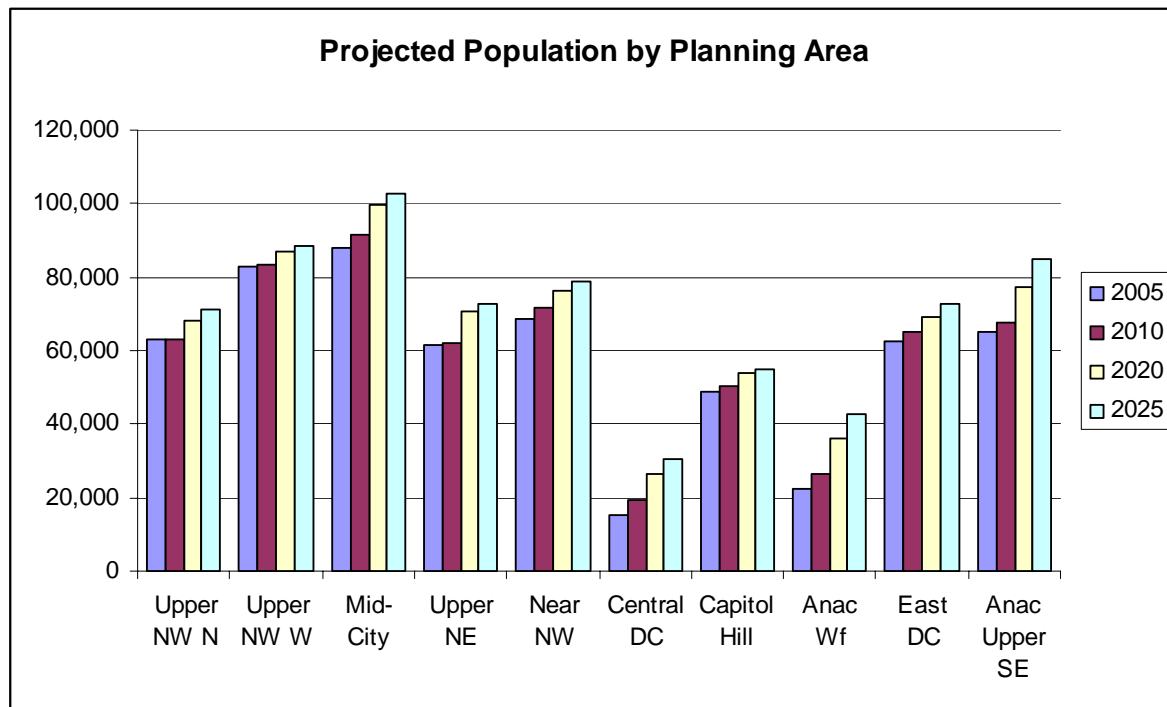


Table 3.2 Population Forecasts for Washington, DC, by Planning Area

DC Planning Area	Population *					Percent Change		
	2000	2005	2010	2020	2025	00-10	10-20	20-25
Upper NW N	62,810	62,891	63,108	68,101	71,073	0.5%	7.9%	4.4%
Upper NW W	82,178	83,014	83,558	86,718	88,647	1.7%	3.8%	2.2%
Mid-City	85,161	87,839	91,340	99,767	102,644	7.3%	9.2%	2.9%
Upper NE	61,967	61,356	62,217	70,546	72,807	0.4%	13.4%	3.2%
Near NW	66,056	68,702	71,890	76,519	78,890	8.8%	6.4%	3.1%
Central DC	10,576	15,462	19,462	26,694	30,316	84.0%	37.2%	13.6%
Capitol Hill	48,487	48,708	50,124	53,831	55,122	3.4%	7.4%	2.4%
Anac Wf	23,793	22,413	26,648	36,234	42,567	12.0%	36.0%	17.5%
East DC	66,020	62,669	65,107	69,191	72,739	-1.4%	6.3%	5.1%
Anac Upper SE	65,055	64,865	67,721	77,338	84,836	4.1%	14.2%	9.7%
DC Total	572,102	577,919	601,175	664,938	699,641	5.1%	10.6%	5.2%

* Information provided by DC-OP

Figure 3.3 Projected Population by Planning Area

Tables 3.1 and 3.2 show growth in households is higher and faster than growth in population in almost every case, usually with a relatively small difference between the respective rates of growth. For example, the total number of households in the District is projected to increase by seven percent between 2000 and 2010, while total population is projected to increase by 5.1 percent.

Residential growth is expected to increase most rapidly in Central Washington and Anacostia Waterfront. These two Planning Areas combined are expected to grow by more than 20,800

households from 2000 to 2025, accounting for almost one-third of all the new residential growth forecast for the city as a whole.

Central Washington includes Downtown, the West End and the Monumental Core. Between 2000 and 2010, Central Washington households are expected to increase by 98 percent, and between 2010 and 2025, households are expected to increase an additional 60 percent. Altogether, the number of households in Central Washington is projected to more than triple from approximately 5,000 households to more than 16,000 households between 2000 and 2025. Thus, while much of the transportation infrastructure in Central Washington has historically supported the large volume of work-related activity associated with this employment center, the residential growth in this area will require consideration of residential services, such as dry cleaners, local grocery stores, and similar establishments.

Anacostia Waterfront, an emerging growth area, is projected to almost double in the number of households between 2000 and 2025. The current (2005) ratio of jobs to households for Anacostia Waterfront is approximately four to one; both households and jobs are projected to increase dramatically, with higher growth rates for households, such that by 2025 the ratio of jobs to households will be somewhat more balanced at approximately three to one.

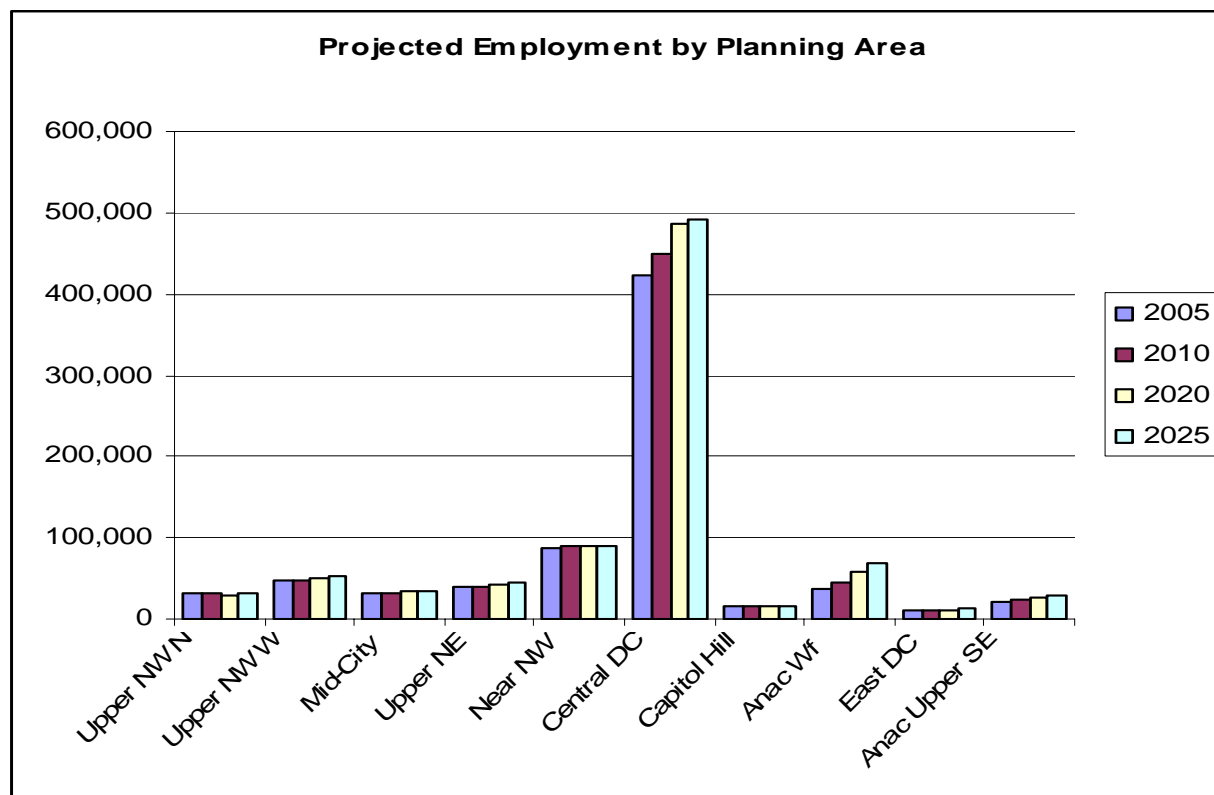
Upper Northwest West is projected to have the slowest growth of any area, increasing a cumulative total of ten percent in households from 2000 to 2025. Currently Upper Northwest West has the most households of any Planning Area, but Mid-City is projected to lead by a small margin in the number of households by 2020 and 2025.

Table 3.3 Employment Forecasts for Washington, DC, by Area Element

DC Planning Area	Employment *					Percent Change		
	2000	2005	2010	2020	2025	00-10	10-20	20-30
Upper NW N	30,675	30,901	31,466	29,421	32,420	2.6%	-6.5%	10.2%
Upper NW W	48,020	48,540	48,805	50,455	51,605	1.6%	3.4%	2.3%
Mid-City	29,207	30,472	32,107	34,431	35,231	9.9%	7.2%	2.3%
Upper NE	38,929	39,359	39,359	42,791	45,069	1.1%	8.7%	5.3%
Near NW	84,365	87,285	88,807	90,338	90,956	5.3%	1.7%	0.7%
Central DC	400,175	423,959	449,877	485,290	490,763	12.4%	7.9%	1.1%
Capitol Hill	15,098	15,167	15,317	16,212	16,592	1.5%	5.8%	2.3%
Anac Wf	36,398	38,288	44,933	59,151	67,709	23.4%	31.6%	14.5%
East DC	9,381	9,651	10,321	11,831	12,206	10.0%	14.6%	3.2%
Anac Upper SE	21,572	21,772	22,812	25,762	27,822	5.7%	12.9%	8.0%
DC Total	713,818	745,393	783,803	845,682	870,372	9.8%	7.9%	2.9%

* Information provided by DC-OP

Figure 3.4 Projected Employment by Planning Area



As shown in Table 3.3 and Figure 3.4, the forecasts indicate that job growth will occur fastest in Anacostia Waterfront. In the year 2000, jobs in this area constituted nearly five percent of the total jobs, but by 2025, this share is expected to be nearly eight percent. This statistic suggests that the potential for rapid change in impacts on the transportation in network in this area. Most of the jobs in Anacostia Waterfront are expected in areas along the waterfront.

Nevertheless, Central Washington will continue to have, by far, the most jobs of all other areas in the District. In both 2000 and the forecast year 2025, Central Washington is shown to contain 56 percent of all District jobs, underscoring the need to maintain the transportation infrastructure in a manner that keeps pace with sustained job growth in the area. Central Washington, with projected growth of over 90,000 jobs, accounts for approximately three-fourths of all the job growth projected for the District between 2000 and 2025.

Employment growth is anticipated to be the slowest in Upper Northwest North, Upper Northwest West, and Near Northwest, at six percent, seven percent and eight percent respectively from 2000 to 2025. Near Northwest is second only to Central Washington in the total number of jobs within the District. It currently accounts for 11.8 percent of jobs in 2000; this is projected to drop to less than 10.5 percent of all jobs as other areas, such as Anacostia Waterfront, increase their employment. As noted in the desire line analysis, Near Northwest has the closest match in the District between population and the number of jobs. That balance is projected to become even closer in the future, as more residents than jobs are added to the area. The ratio of jobs to population for Near Northwest is 1.27 in 2000, forecast to narrow to 1.15 in 2025. Locating jobs closer to housing, and vice versa, has been shown to decrease auto use, and increase transit,

walking and bicycle use. Most other areas of the city maintain close to their current balance between jobs and residents, except for Central Washington, which changes from a ratio of 40 jobs per resident of the area in the year 2000 to 16 jobs per resident.

Within the District, the areas containing the highest concentrations of jobs and residents are expected to remain unchanged throughout the forecast period. This reflects the general expectation that historical land use patterns will remain the same. However, areas along the Anacostia Waterfront will experience tremendous residential and job growth throughout the forecast period, which will likely require increased capital investment and programmatic solutions such as TDM to meet the increased demand that will occur as a result of this growth.

Tables 3.4 through 3.6 show the employment and household forecasts in a regional context. They provide forecasts from the data series for each of the jurisdictions in the Washington region, with the revised forecasts for the District as explained above. Although several definitions of the region exist, this analysis assumes the region to be defined as those jurisdictions included in the 1983 OMB definition of the Washington, DC-MD-VA Metropolitan Statistical Area (MSA). This is the same definition used by MWCOC in its *Growth Trends to 2030: Cooperative Forecasting in the Washington Region (Autumn 2003)* report, which reported the Round 6.3 Cooperative Forecasts.

Table 3.4 Households for the Washington, DC-MD-VA MSA, by Jurisdiction

Jurisdiction	Households (thousands)					Percent Change			
	2000	2005	2010	2020	2025	00-05	05-10	10-20	20-25
District of Columbia *	248.3	254.7	265.7	295.6	311.8	2.6%	4.3%	11.2%	5.5%
Arlington County	86.4	90.9	94.6	102.5	104.8	5.2%	4.1%	8.4%	2.3%
City of Alexandria	61.9	66.2	70.0	73.0	74.3	7.0%	5.8%	4.2%	1.8%
Central Jurisdictions	396.6	411.7	430.3	471.0	490.9	3.8%	4.5%	9.5%	4.2%
Montgomery County	325.4	347.3	370.8	405.8	415.9	6.7%	6.8%	9.4%	2.5%
Prince George's County	287.7	303.6	318.1	345.9	358.7	5.5%	4.8%	8.7%	3.7%
Fairfax County (Including Cities of Fairfax & Falls Church)	363.7	395.4	422.9	445.2	449.9	8.7%	6.9%	5.3%	1.0%
Inner Suburbs	976.9	1,046.4	1,111.8	1,196.9	1,224.5	7.1%	6.3%	7.7%	2.3%
Loudoun County	59.9	84.9	106.6	139.6	150.0	41.7%	25.6%	31.0%	7.4%
Prince William (Including Cities of Manassas & Manassas Park)	109.6	129.9	144.2	160.9	166.0	18.6%	11.0%	11.6%	3.2%
Calvert County	25.4	27.3	29.1	33.0	34.8	7.1%	6.6%	13.6%	5.4%
Charles County	41.7	46.5	51.3	66.4	71.3	11.6%	10.4%	29.4%	7.3%
Frederick County	70.1	76.2	84.7	102.0	110.1	8.8%	11.1%	20.4%	8.0%
Stafford County	30.7	36.1	41.4	52.4	58.0	17.4%	14.8%	26.6%	10.6%
Outer Suburbs	337.4	400.8	457.3	554.4	590.2	18.8%	14.1%	21.2%	6.5%
Grand Total	1,710.8	1,859.0	1,999.5	2,222.4	2,305.6	8.7%	7.6%	11.2%	3.7%

* Information for the District of Columbia provided by DC-OP

Table 3.5 Population for the Washington, DC-MD-VA MSA, by Jurisdiction

Jurisdiction	Population (thousands)					Percent Change			
	2000	2005	2010	2020	2025	00-05	05-10	10-20	20-25
District of Columbia *	572.1	607.0	627.0	688.1	702.4	6.1%	3.3%	9.8%	2.1%
Arlington County	189.5	197.4	202.5	215.5	219.5	4.2%	2.6%	6.4%	1.9%
City of Alexandria	128.3	136.5	142.9	147.8	150.0	6.4%	4.7%	3.4%	1.5%
Central Jurisdictions	889.8	940.9	972.4	1,051.4	1,072.0	5.7%	3.3%	8.1%	2.0%
Montgomery County	875.9	927.6	977.6	1,052.5	1,072.5	5.9%	5.4%	7.7%	1.9%
Prince George's County	805.4	854.0	878.6	929.8	949.6	6.0%	2.9%	5.8%	2.1%
Fairfax County (Including Cities of Fairfax & Falls Church)	1,003.0	1,079.1	1,149.5	1,211.2	1,224.0	7.6%	6.5%	5.4%	1.1%
Inner Suburbs	2,684.3	2,860.6	3,005.6	3,193.4	3,246.0	6.6%	5.1%	6.2%	1.6%
Loudoun County	169.6	239.3	300.4	393.7	423.0	41.1%	25.6%	31.1%	7.4%
Prince William (Including Cities of Manassas & Manassas Park)	326.2	390.9	428.4	467.6	479.0	19.8%	9.6%	9.2%	2.4%
Calvert County	74.6	80.6	86.6	95.6	100.0	8.1%	7.5%	10.4%	4.6%
Charles County	120.5	134.0	147.4	183.0	194.0	11.1%	10.0%	24.2%	6.0%
Frederick County	195.3	216.6	238.3	281.9	299.6	10.9%	10.0%	18.3%	6.3%
Stafford County	92.4	107.1	121.7	151.0	165.7	15.8%	13.7%	24.1%	9.7%
Outer Suburbs	978.7	1,168.4	1,322.9	1,572.9	1,661.3	19.4%	13.2%	18.9%	5.6%
Grand Total	4,552.8	4,969.9	5,300.9	5,817.7	5,979.3	9.2%	6.7%	9.8%	2.8%

* Information for the District of Columbia provided by DC-OP

Table 3.6 Employment for the Washington, DC-MD-VA MSA, by Jurisdiction

Jurisdiction	Employment (thousands)					Percent Change			
	2000	2005	2010	2020	2025	00-05	05-10	10-20	20-25
District of Columbia *	713.8	745.4	783.8	845.7	870.4	4.4%	5.2%	7.9%	2.9%
Arlington County	201.7	209.7	236.0	274.1	293.2	3.9%	12.6%	16.1%	7.0%
City of Alexandria	98.6	104.1	120.7	136.9	141.9	5.6%	16.0%	13.4%	3.6%
Central Jurisdictions	1,014.1	1,059.1	1,140.5	1,256.7	1,305.4	4.4%	7.7%	10.2%	3.9%
Montgomery County	545.3	585.3	630.3	680.4	695.4	7.3%	7.7%	7.9%	2.2%
Prince George's County	327.3	357.6	399.6	464.6	516.4	9.3%	11.7%	16.3%	11.1%
Fairfax County (Including Cities of Fairfax & Falls Church)	573.0	635.2	694.6	750.4	778.5	10.9%	9.3%	8.0%	3.7%
Inner Suburbs	1,445.6	1,578.1	1,724.5	1,895.4	1,990.3	9.2%	9.3%	9.9%	5.0%
Loudoun County	87.0	109.9	137.1	195.3	224.5	26.3%	24.7%	42.5%	14.9%
Prince William (Including Cities of Manassas & Manassas Park)	114.3	130.8	151.7	182.1	193.7	14.5%	15.9%	20.0%	6.4%
Calvert County	25.9	29.4	32.9	34.5	35.1	13.5%	11.9%	4.9%	1.6%
Charles County	50.1	56.5	62.9	66.8	67.9	12.7%	11.4%	6.2%	1.7%
Frederick County	99.7	109.2	120.7	148.5	162.5	9.5%	10.5%	23.0%	9.4%
Stafford County	25.3	31.8	38.3	49.2	54.5	25.7%	20.4%	28.3%	10.7%
Outer Suburbs	402.4	467.7	543.6	676.4	738.2	16.2%	16.2%	24.4%	9.1%
Grand Total	2,862.0	3,104.9	3,408.7	3,828.5	4,033.9	8.5%	9.8%	12.3%	5.4%

* Information for the District of Columbia provided by DC-OP

Demographic trends outside the District play a prominent role in the performance of the transportation system within the District. The Washington metropolitan area experienced tremendous growth in the latter 20th Century, and current forecasts suggest that this growth will be sustained. Most of the growth has occurred in the suburban jurisdictions. Growth rates in the outer portions of the region in areas like Loudoun County, Virginia, are among the fastest in the nation. Much of the growth in the region can be attributed to the robust job growth that has resulted from a healthy regional economy. While the suburbs continue to add more jobs, the District continues to lead all other jurisdictions in the number of jobs. The desire line analysis of this report demonstrates the large volumes of commuting from the suburbs into the District, particularly into Central Washington. These patterns are likely to continue, but with increased housing opportunities within the District, it is anticipated that much of the job growth occurring within the District will be accommodated by new District residents.

Throughout the forecast period, the ratio of households to jobs is expected to remain at approximately 57 to 60 percent, indicating that the number of jobs and households will increase at approximately the same rate throughout the period. Although the suburbs will add jobs faster than the District throughout the forecast period, the fundamental commuting patterns of suburban residents entering the District to work will remain similar to current patterns. However, with the

anticipated residential growth within the District, there will be significant growth in the number of District residents that live and work within the city.

Substantial job growth is expected to continue in the suburbs. In fact, jobs are forecast to grow faster than households in the suburbs. These suburban jobs will attract workers who live in the District, underscoring the reality that the District is no longer just a destination for work trips from other jurisdictions, but also a major origin of work trips that terminate in the suburbs. The location of suburban jobs relative to available suburban transit services will have a profound impact on the mode of travel used by District residents to reach these suburban jobs.

To accommodate the growth, transit and other intermodal transportation infrastructure improvements are being implemented throughout the city and the region. Many of the improvements are geared to support reverse commute movements to regional activity centers and other job sources. The desire line analysis shows commuting patterns into and out of the District; as transit connectivity increases, and as TDM measures facilitate additional ride sharing, the non-SOV mode split to all destinations is projected to increase.

3.3.2 Transportation Demand Management (TDM) and Transportation System Management (TSM) Strategies

What Are TDM and TSM and What Do They Include?

Travel Demand Management is a series of transportation strategies that are designed to maximize the people-moving capability of the transportation system by increasing the number of persons in a vehicle, or by influencing the time of, or need to, travel. To accomplish these types of changes, TDM programs must rely on incentives or disincentives to make these shifts in behavior attractive. The primary purpose of TDM is to reduce the number of vehicles using the road system while providing a wide variety of mobility options to those who wish to travel.

Transportation System Management, or TSM, focuses on the supply side of transportation network capacity, and can be used to reinforce TDM measures. TSM measures include improvements such as turning lanes, modernization of signal systems and signal timing, access management, and other facility-related improvements. Historically, TSM improvements have increased capacity in a range of 10 to 15 percent when systematically implemented for transportation corridors. Many of the improvements identified in the DDOT 2030 Transportation Vision Plan Action Plan are typically included as part of a comprehensive TSM program.

TDM programs at the employment site for alternatives to single occupancy vehicles include:

- carpools and vanpools
- public and private transit, including bus pools and shuttles
- non-motorized travel, including bicycling and walking

TDM programs can also include alternatives to influence when travel occurs during the day or whether it occurs at all on some days. These efforts include:

- compressed work weeks
- flexible work schedules
- telecommuting (at home or satellite work centers)

Systemwide TDM /TSM programs include:

- service improvements to transit service
- provision of preferential lanes (for transit and/or for high occupancy vehicles)

TDM strategies also include improvements in alternative modes of transportation; financial or time incentives for the use of these alternative modes; and information dissemination and marketing activities. Examples of these TDM strategies include:

- financial/time incentives – preferential parking for ridesharers, subsidies for transit riders, and transportation allowances
- parking management programs
- priority treatment for ridesharers
- information and marketing
- area-wide cost surcharges or subsidy measures designed to make the cost of driving single occupant vehicles higher than for high occupancy vehicles

TDM programs also include congestion avoidance strategies. Such strategies would include programs to increase the capacity of transit lines and implementing land use/growth management techniques that would promote multi-use land use activities and higher densities at transit centers.

What Level of Trip Reductions Can We Expect From TDM Programs

Experience has shown that complementary TDM strategies when applied to individual employment sites can be very effective and result in vehicle reductions of 30 to 40 percent. However, area wide TDM programs are not likely to produce such significant reductions because in most cases they are affecting only a portion of the traveling market segments. For example, if a TDM program is applied to Federal employees that results in a 10 percent reduction of their work trips and if the Federal employees represented 20 percent of all work trips, the overall trip reduction would be 2 percent. And if work trips represented 40 percent of the afternoon peak hour trips, the afternoon reduction in trips would be .4 X 2 percent or less than 1 percent.

The empirical evidence indicates that most of the successes are at the level of the individual site and not in the more sweeping, visible, area-wide programs. However, this does not imply that

the area-wide program efforts are not without value or contribution. Although specific site reductions may range from a 20 percent to 40 percent reduction, the area-wide reductions of 2 percent to 6 percent in the peak may have even more beneficial effects because of their broader arena of impact.

In order to measure the potential impact of TDM mitigation strategies for providing greater mobility and transportation services as part of the DC Comprehensive Plan, both individual site and area-wide programs are considered. For employer based TDM programs the following factors are important to a successful implementation, and are ranked from least to most important:

Least Important:

1. Employer Size
2. Location Density
3. General Marketing and Support
4. Alternative Work Arrangements

More Important:

1. Legal Requirement
2. Support of Transit
3. Support of Vanpooling

Most Important:

1. Support of Carpooling
2. Financial Incentives (Transit and Rideshare)
3. Restricted Parking
4. Parking Charges

The factors listed for employer based TDM programs also apply for determining how successful TDM programs are on a region-wide basis.

Due to the great variation in factors that affect the success of TDM measures to reduce trips, the analysis of the potential reductions of various mitigation strategies for the Comprehensive Plan is evaluated on the basis of the intensity and the extensiveness of the implementation of the program. For this planning analysis the implementation intensity of the strategies will be categorized as low, medium, and high. The general reductions in trips will range from 2 to 6 percent and correspond to the levels of implementation intensity. The ranges of trip reductions are based on empirical information from various urbanized areas and their experiences during and after implementation of TDM programs. Although the impact analysis is a general estimate, the range of trip reductions provides an accurate and reasonable scale of what is realistic when evaluating potential transportation strategies. During specific corridor studies, a more precise but not necessarily more accurate estimate may be made by canvassing individual employers in

the corridor concerning the possible implementation of TDM and transportation improvement strategies.

Listed below are more detailed descriptions of what is meant by low, medium, and high implementation programs of TDM strategies.⁷ An implementation description is included for each strategy so that planners and the public will have a better understanding of what may be necessary to achieve the corresponding trip reductions.

- A. Level of Participation in TDM Programs
 - 1. Low – Voluntary Participation
 - 2. Medium- Mandatory Participation for Specific Markets
 - 3. High – Full Participation by all employers and all federal, state, and local governmental entities.
- B. Employer Transit Support Programs
 - 1. Low – Provide a transit information center on site, plus a ¼ time transportation coordinator.
 - 2. Medium – Low level activities plus adoption of a policy or schedule to allow employees to coordinate work schedules with transit, on-site transit pass sales, ½ time transportation coordinator.
 - 3. High – Medium level activities plus guaranteed ride home program and full time coordinator.
- C. Employer Carpool Support Programs
 - 1. Low – Information on carpooling opportunities and general promotion of carpooling on-site, plus a ¼ time transportation coordinator.
 - 2. Medium – Low level activities plus in-house matching services, parking privileges for carpools, work hour flexibility to match schedules, and a part time coordinator.
 - 3. High – Medium level activities plus a guaranteed ride home program and a full-time coordinator.
- D. Employer Vanpool Support Programs
 - 1. Low – Information on vanpool opportunities and a ¼ time transportation coordinator
 - 2. Medium – Low level activities plus in-house vanpool matching, adoption of work-hour flexibility, financial assistance, start up subsidies, parking privileges, plus a part time coordinator.
 - 3. High – Medium level activities plus a guaranteed ride home, major financial assistance, fuel, insurance, and empty seat subsidies, and a full time coordinator.

⁷ Descriptions were developed by consultant based on ‘A Guidance Manual for Implementing Effective Employer-based Travel Demand Management Programs, Final Report’ and ‘Implementing Effective Travel Demand Management Measures: Inventory of Measures and Synthesis of Experience.’

- E. Transit Service Improvements (Measured Above Current Transit Service Levels)
 - 1. Low – In-vehicle (riding time) time savings of 5 minutes; Out-of-vehicle (waiting time) time savings of 2 minutes.
 - 2. Medium – In-vehicle time savings of 10 minutes; Out-of-vehicle time savings 4 minutes.
 - 3. High – In-vehicle time savings of 15 minutes; Out-of-vehicle time savings 6 minutes.

Note: Where existing transit service in a corridor is at a high level a greater trip reduction will occur with transit service improvements.

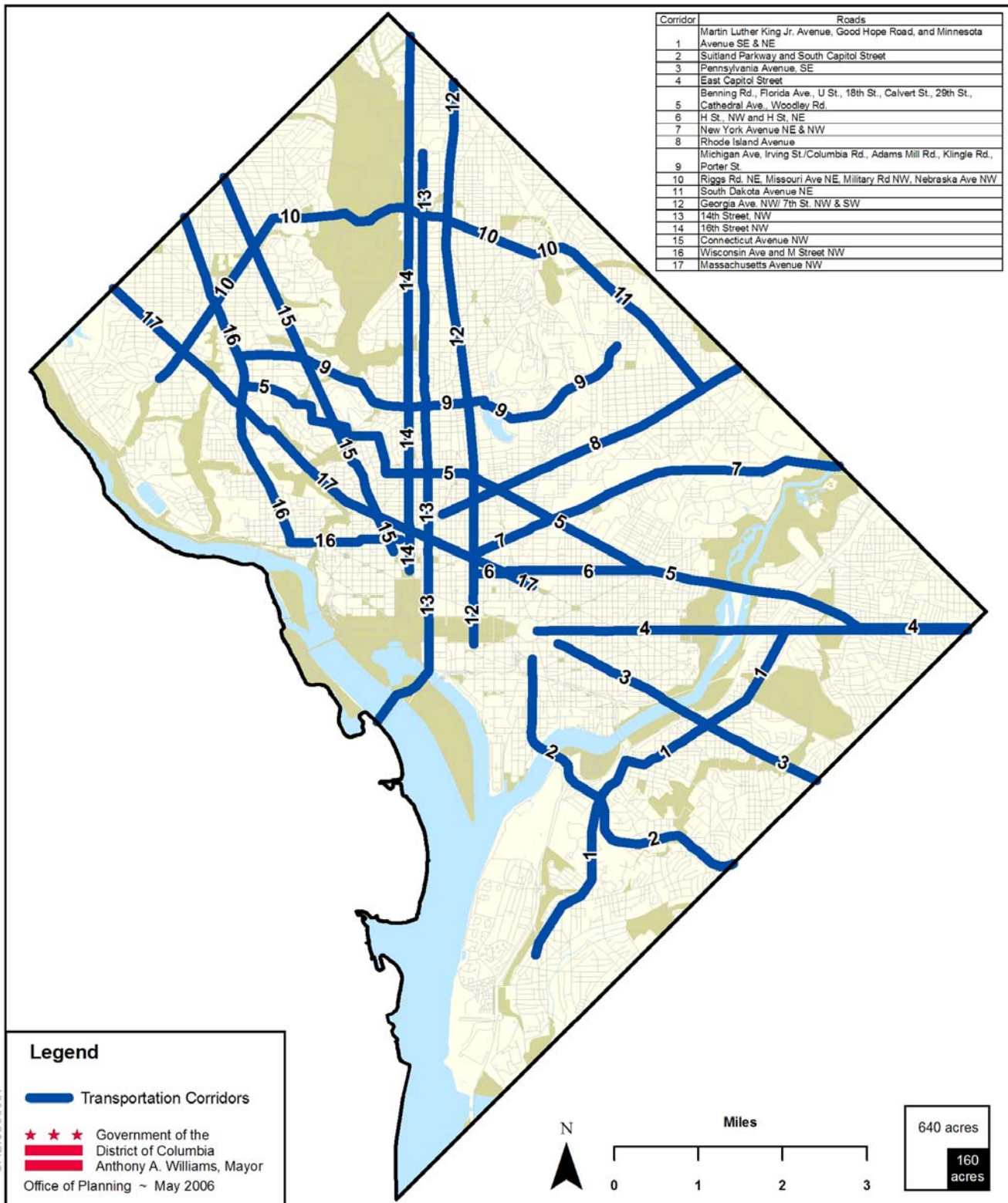
- F. Transit Subsidies
 - 1. Low- \$3.00 per day
 - 2. Medium - \$6.00 per day
 - 3. High - \$9.00 per day
- G. Travel Cost Incentives (Additional Costs to Single Occupant Vehicles in the Form of Taxes or Additional Parking Costs)
 - 1. Low - \$4.00 per day
 - 2. Medium - \$7.00 per day
 - 3. High - \$10.00 per day
- H. Alternative Work Arrangements (Flexible Work Hours, Staggered Work Hours, Compressed Work Weeks, Telecommuting)
 - 1. Low – Percent of Workers Eligible to Participate 10 percent
 - 2. Medium – Percent of Workers Eligible to Participate 20 percent
 - 3. High – Percent of Workers Eligible to Participate 30 percent

It is important to note that when estimating the impact that future TDM programs will have on the system, it is based on the expansion of existing programs. For example, currently 13 percent of the workers in the DC area participate in some form of telecommuting. For telecommuting to have an additional impact on trip reductions, the percentage of telecommuters would have to increase beyond the current rate of 13 percent. The estimates of the additional potential trip reductions ranging from 2 percent to 6 percent is based on an expansion of the current TDM and transit systems that are already planned to be implemented.

3.3.3 Movement of People in the Corridors

As a measure of how well the current system is operating as a multimodal system, the average vehicle ridership (AVR) was calculated for each of the 17 corridors that are included in the technical analysis. The corridors are graphically displayed in Figure 3.5.

Figure 3.5 Key Corridors



Average vehicle ridership is obtained by dividing all person trips by the number of private vehicle trips. All person trips will include the trips made by Metro, buses, vans, carpools, automobile, and bicycle (if the number of trips are available). The average vehicle ridership rate characterizes the entire population's need for vehicles and not just the rate at which private vehicle users are occupying private vehicles.

Typical average vehicle ridership rates vary based on land use. Shown below are rates that may be expected based on the type of land use.⁸ A low value of 1.13 indicates that the segment is used exclusively by autos, whereas a higher number indicates a corridor that is better served by public transit.

1. Low Density Suburb – AVR 1.13
2. Activity Center – AVR 1.35
3. Regional CBD/Corridor – AVR 1.90

Listed below in Table 3.7 are the AVRs in the peak hour in the peak direction for each of the 17 corridors identified in the study according to each TDM/TSM scenario level. Details by segment are included below in the discussion of proposed improvements for each corridor and the corresponding AVR. For details on the procedure followed to estimate the AVRs please refer to Appendix E.

Table 3.7
Average Vehicle Ridership by Corridor and Scenario

Num	Name of Corridor	Scenarios			
		Existing	1	2	3
1	Martin Luther King Jr. Avenue, Good Hope Road, and Minnesota Avenue SE & NE	1.29	1.34	1.35	1.37
2	Suitland Parkway and South Capitol Street	1.32	1.36	1.37	1.39
3	Pennsylvania Avenue, SE	1.58	1.63	1.65	1.68
4	East Capitol Street	1.44	1.48	1.50	1.52
5	Benning Rd., Florida Ave., U St., 18th St., Calvert St., 29th St., Cathedral Ave., Woodley Rd.	1.42	1.61	1.63	1.66
6	H St., NW and H St, NE	1.83	1.93	1.96	1.99
7	New York Avenue NE & NW	1.95	2.03	2.06	2.09
8	Rhode Island Avenue	1.60	1.62	1.64	1.67
9	Michigan Ave, Irving St./Columbia Rd., Adams Mill Rd., Klinge Rd., Porter St.	1.52	1.55	1.57	1.59
10	Riggs Rd. NE, Missouri Ave NE, Military Rd NW, Nebraska Ave NW	1.34	1.36	1.37	1.38
11	South Dakota Avenue NE	1.32	1.34	1.36	1.37
12	Georgia Ave. NW/ 7th St. NW & SW	1.41	1.46	1.64	1.67
13	14th Street, NW	2.03	2.09	2.15	2.18
14	16th Street NW	1.59	1.63	1.68	1.70
15	Connecticut Avenue NW	1.71	1.76	1.79	1.81
16	Wisconsin Ave and M Street NW	1.49	1.52	1.56	1.58
17	Massachusetts Avenue NW	1.87	1.94	1.98	2.01

Note: Corridor number corresponds with the map from the DDOT Vision Plan Action Plan

⁸ Taken from 'Implementing Effective Travel Demand Management Measures: Inventory of Measures and Synthesis of Experience.'

3.3.4 Corridor Capacity Analysis

The impact of the travel growth from the suburbs and within the District, coupled with proposed land use changes by the Office of Planning, results in congestion in the future years. To mitigate the increased congestion, TDM/TSM measures are typically applied to (1) change the travel characteristics by shifting trips from the peak periods to the off-peak periods, (2) reduce the total number of trips made (telecommuting for instance)⁹ and (3) shift trips from auto to more efficient modes such as carpools, vanpools, buses, metro, streetcar, etc. TDM/TSM improvements will be mostly concentrated along the main transportation corridors where high density developments with population and employment are located.

The regional transportation model developed by the MWCOG was used to evaluate the impact of the proposed Land Use Changes and their impact on the existing transportation infrastructure and future improvement plans proposed by DDOT and WMATA. The impact of transit mode shifts is evaluated outside the regional model considering the most recent results from the DDOT/WMATA transit improvement programs. Each corridor is evaluated based on two separate but interrelated measures: movement of person-trips, as measured in AVR described above and discussed in detail below, and in vehicle movements on the roadways compared to roadway capacity, in terms of under capacity, at capacity and over capacity, discussed in the following section.

The remainder of this section identifies major changes proposed for each corridor from the DDOT Action Plan, and the changes in AVR resulting from travel growth related to land use changes, transit improvements and TDM/TSM measures.

⁹ Although TDM often reduces trip-making, as noted above in item 2, for the purposes of this analysis, and to maintain consistency among the scenarios, person-trips are not reduced with enhanced TDM/TSM (as would occur through telecommuting or compressed work weeks), but are shifted to transit and to the off-peak period.

1. Martin Luther King Jr. Avenue, Good Hope Road, and Minnesota Avenue SE & NE

This corridor provides essential street connectivity from the far southeast to the northeast sections of Anacostia, including connecting to all the major Anacostia River crossings and two Metrorail Stations.

Transit Changes: The DDOT 2030 Transportation Vision Plan Action Plan (Action Plan) identifies Martin Luther King, Jr. Ave as a transit priority corridor with signal priority and curb extensions at transit stop intersections. The District of Columbia Transit Improvements Alternatives Analysis proposes a streetcar line along portions of the corridor.

TSM Changes: Traffic signal timing and coordination modifications are proposed to improve traffic flow. Several intersections are to be redesigned to increase safety and improve pedestrian and transit user access. A shared-use pedestrian/bicycle facility is proposed along an extensive portion of Martin Luther King Jr. Ave. It is also considered as a Great Street Corridor, with attendant public space improvements such as street trees and enhanced lighting.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current average of 1.29 to a potential 1.37 with the most extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
Martin Luther King Jr. Avenue, Good Hope Road, and Minnesota Avenue SE & NE	Martin Luther King Jr.	South Capitol St. to Good Hope Rd.	1.31	1.33	1.34	1.36
	Good Hope Road	Martin Luther King Jr. to Minnesota Ave.	1.31	1.38	1.39	1.41
	Minnesota Ave SE	Good Hope to Pennsylvania Ave	1.36	1.52	1.54	1.57
	Minnesota Ave NE	Pennsylvania Ave. to East Capitol St.	1.24	1.26	1.27	1.29
		Weighted Average	1.29	1.34	1.35	1.37

2. Suitland Parkway and South Capitol Street

The Anacostia Waterfront and the South Capitol Street Corridor from Martin Luther King, Jr. Ave to the U.S. Capitol are a focus for development and transportation planning.

As shown in the Desire Line Analysis, Prince George's County is the source for more trips into the District than any other jurisdiction. It is the source for the most trips into seven of the ten Planning Areas, including Central Washington. This corridor, plus Pennsylvania Avenue (Corridor 3), East Capitol (Corridor 4), H Street (Corridor 6), New York Avenue (Corridor 7), Rhode Island Avenue (Corridor 8) and Michigan Avenue (Corridor 9) all provide essential connectivity between Prince George's County and the District.

TSM Changes: Current plans call for the construction of a new multimodal South Capitol Street Bridge and the reconstruction of South Capitol Street to create an at-grade boulevard. The DDOT Action Plan also recommends upgrading the shared use facility on the north side of Suitland Parkway.

Transit Changes: The Plan recommends a safe bicycle and pedestrian connection from Suitland Parkway to the Anacostia Metrorail Station.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.32 to a potential 1.39 with the most extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
Suitland Parkway and South Capitol Street	South Capitol Street	D St. to Suitland Pkwy.	1.33	1.38	1.39	1.41
	Suitland Parkway	South Capitol St. to DC border	1.31	1.33	1.34	1.36
		Weighted Average	1.32	1.36	1.37	1.39

3. Pennsylvania Avenue, SE

This corridor extends from the boundary with Prince George's County to Independence Avenue near the U.S. Capitol.

TSM Changes: The DDOT Action Plan calls for numerous specific intersection improvements to improve pedestrian access. It also recommends a continuous shared-use pedestrian and bicycle facility on the south side of Pennsylvania Avenue. Improved traffic signal timing and

coordination are proposed to improve traffic flow. Reversible lanes are maintained and improved through additional overhead signals at side streets.

Transit Changes: The Action Plan calls for upgraded bus stops at high ridership boarding locations

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.58 to a potential 1.68 with the most extensive TDM programs.

The AVR for each scenario is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
Pennsylvania Avenue, SE	Pennsylvania Avenue, SE	Independence Ave. to DC border	1.58	1.63	1.65	1.68
		Weighted Average	1.58	1.63	1.65	1.68

4. East Capitol Street from 22nd Street to the D.C. Line

This corridor extends from the Prince George's County line to Robert F. Kennedy Stadium on the west side of the Anacostia River.

TSM Changes: From the District Line to Benning Road, the DDOT Action Plan recommends a revised traffic pattern to permit parking throughout the day on both sides of the road, plus adding bicycle lanes. Various intersections are improved to increase pedestrian safety.

From Benning Road to Minnesota Avenue, the Action Plan recommends a shared-use pedestrian/bicycle facility on the north side of the street. The Action Plan also recommends public space improvements throughout the corridor such as street trees and enhanced lighting.

Transit Changes: From the District Line to Benning Road, the Action Plan recommends adding curb extensions for transit. Bus-rail transfer facilities are enhanced at Benning Road Metrorail Station. From Benning Road to Minnesota Avenue, the Action Plan recommends improving transit stops.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.44 to a potential 1.52 with the most extensive TDM programs.

The AVR for the two sections of the corridor is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
East Capitol Street	East Capitol Street	22nd St. NE to Benning Rd.	1.57	1.61	1.63	1.65
	East Capitol Street	Benning Rd. to DC border	1.24	1.26	1.27	1.29
		Weighted Average	1.44	1.48	1.50	1.52

5. Benning Rd., Florida Ave., U St., 18th St., Calvert St., 29th St., Cathedral Ave., Woodley Rd.

This complex cross-town corridor extends from Benning Road and East Capitol in southeast Washington to Woodley Road in northeast Washington, with varying road types, capacities and land use characteristics.

TSM Changes: The DDOT Action Plan recommends pedestrian safety and public space improvements throughout the corridor. This includes reconstruction of various intersections and consistent 8-foot clear width of sidewalk on both sides of the corridor from the intersection of Benning Road and East Capitol Street to U and 18th Streets. Pedestrian/bicycle shared use facilities are proposed along Benning Road, including rebuilding the viaduct to be fully accessible. A median with left-hand turn bays is proposed for major intersections such as New York Avenue at North Capitol Street. Better management of parking and loading activities on Florida Avenue and on U Street is proposed to improve traffic flow

Transit Changes: The Action Plan recommends transit stop upgrades and transit curb extensions at key locations.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.42 to a potential 1.66 with the most extensive TDM programs.

The AVR for the individual sections follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
Benning Rd., Florida Ave., U St., 18th St., Calvert St., 29th St., Cathedral Ave., Woodley Rd.	Benning Rd.	East Capitol St. to Florida Avenue	1.57	2.58	2.62	2.66
	Florida Ave.	9th St and U St NW to Benning Rd	1.43	1.61	1.64	1.66
	U St. NW	18th St. to Florida Ave.	1.47	1.61	1.64	1.66
	18th St. NW	Adams Mill/ Calvert St. to U St.	1.33	1.35	1.37	1.39
	Calvert Street NW	29th St. to 18th St.	1.54	1.67	1.70	1.72
	Cathedral Ave. NW	Woodley Rd. to Cathedral Ave.	1.25	1.27	1.28	1.30
	Woodley Road, NW	Wisconsin Ave. to Cathedral Ave.	1.25	1.27	1.28	1.30
		Weighted Average	1.42	1.61	1.63	1.66

6. H St., NW and H St, NE

The District has planned for significant economic development in this corridor, supported by greatly-enhanced transit service.

Transit Changes: H Street is a transit priority corridor, proposed for high-capacity surface transit service (bus rapid transit, streetcar, or light rail) running the length of the corridor in a curbside travel lane. Signal priority for transit vehicles is proposed for the entire corridor.

TSM Changes: Upgraded crosswalks, pedestrian facilities and streetscape elements are also proposed. Dedicated on-street parking and designated on-street loading zones, plus improved curbside management, are proposed to reduce the incidence of double parking and improve traffic flow.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.83 to a potential 1.99 with the most extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
H St., NW and H St, NE	H Street NW	7th St. NW to North Capitol St.	2.21	2.36	2.39	2.43
	H Street NE	North Capitol St. to Florida Ave. NE	1.25	1.36	1.38	1.40
		Weighted Average	1.83	1.93	1.96	1.99

7. New York Avenue NE & NW

New York Avenue is one the District's most heavily traveled corridors, both for commuters and as a major truck route.

TSM Changes: The DDOT Action Plan maintains existing lane capacity and basic traffic operations, while modifying key intersections to improve traffic operations, enhance motorist safety, and accommodate safe crossings by pedestrians and bicyclists. A continuous pedestrian/bicycle shared use lane is proposed on the north side of the avenue from the Anacostia River to the Metropolitan Branch Trail, with a sidewalk on the south side of the corridor.

Transit Changes: Transit service is improved through the introduction of faster, limited stop bus service directed to serve nodes of activity.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.95 to a potential 2.09 with the most extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
New York Avenue NE & NW	New York Avenue NW	7th St. NW to North Capitol St.	2.48	2.58	2.62	2.66
	New York Avenue NE	North Capitol St. to DC border	1.47	1.50	1.52	1.54
		Weighted Average	1.95	2.03	2.06	2.09

8. Rhode Island Avenue

Rhode Island Avenue is a major travel corridor connecting some of the older Prince George's County towns lining Route 1 with the District's downtown core.

TSM Changes: The DDOT Action Plan proposes to remove parking restrictions throughout the corridor during peak hours, resulting in two travel lanes plus center turn lanes. Bike lanes are proposed in each direction for the full length of the corridor. Enhanced public space treatments such as upgraded street lighting, street trees and street furniture are proposed throughout the corridor.

Transit Changes: Transit stop curb extensions and improved bus stops are proposed at major intersections.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.60 to a potential 1.67 with the most extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
Rhode Island Avenue	Rhode Island Avenue NW	13th St. NW to North Capitol St,	1.74	1.79	1.82	1.84
	Rhode Island Avenue NE	North Capitol St. to DC border	1.32	1.34	1.36	1.38
		Weighted Average	1.60	1.62	1.64	1.67

9. Michigan Ave, Irving St./Columbia Rd., Adams Mill Rd., Klinge Rd., Porter St.

This cross-town corridor varies greatly in its roadway and land use characteristics as it traverses the City.

TSM Changes: The DDOT Action Plan recommends pedestrian safety improvements at specific intersections throughout the corridor. It also recommends a pedestrian/bicycle shared-use facility along both sides of Michigan Avenue from the viaduct at Brookland Station to Harvard Street/ Columbia Road. It recommends upgrading the public space with enhanced lighting and street trees, and evaluation of alternative street cross-sections.

Transit Changes: The Action Plan recommends improving transit stops throughout the corridor, and considering curb extensions for bus stops in zones where all-day parking is permitted. Michigan Avenue from 12th Street NE to Columbia Road/ Irving is proposed as a transit priority

corridor with signal priority and curb extensions at transit stop intersections. A transit transfer center is proposed at the Columbia Heights Metrorail Station, with expanded sidewalks and bus stop locations.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.52 to a potential 1.59 with the most extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
Michigan Ave, Irving St./Columbia Rd., Adams Mill Rd., Klinge Rd., Porter St.	Michigan Avenue, NE	12th St. NE to North Capitol St.	1.74	1.79	1.82	1.84
	Michigan Avenue, NW	North Capitol St. to Irving St.	1.33	1.35	1.37	1.39
		Irving St. to Porter St.	1.54	1.58	1.60	1.62
		Porter St. to Wisconsin Ave.	1.25	1.27	1.28	1.30
		Weighted Average	1.52	1.55	1.57	1.59

10. Riggs Rd. NE, Missouri Ave NE, Military Rd NW, Nebraska Ave NW

This corridor extends from Riggs Road and South Dakota Avenue in the Upper Northeast to Nebraska Avenue and Foxhall Road in the Upper Northwest. It is the northernmost cross-town corridor in the District.

TSM Changes: Major intersection changes are proposed at Riggs Road and South Dakota Avenue, at Military Road/Missouri Avenue/Georgia Avenue and at Ward Circle. The Plan recommends that specific sections of Missouri Avenue and Military Road be converted from four lanes to provide one lane in each direction, a center turn lane, and a bike lane. Pedestrian and cyclist safety improvements are proposed for intersections and shared-use paths throughout the corridor.

Transit Changes: Transit stop improvements are proposed at various locations to more safely accommodate transfers and pedestrian access.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.34 to a potential 1.38 with the most extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existin g	2025 Scenarios		
				1	2	3
Riggs Rd. NE, Missouri Ave NE, Military Rd NW, Nebraska Ave NW	Riggs Rd. NE	South Dakota Ave to Missouri Ave	1.47	1.50	1.52	1.54
	Missouri Ave.	Riggs Rd to Military Rd.	1.36	1.38	1.40	1.42
	Military Rd.	Missouri Ave. to Nebraska Ave.	1.25	1.27	1.28	1.30
	Nebraska Ave.	Military Rd. to Foxhall Rd.	1.25	1.27	1.28	1.29
		Weighted Average	1.34	1.36	1.37	1.38

11. South Dakota Avenue NE

This corridor extends northwest from New York Avenue near the Anacostia Waterfront to Riggs Road.

TSM Changes: Major intersection changes are proposed at Riggs Road and at 33rd Place. Pedestrian and cyclist safety improvements are proposed for intersections at Bladensburg and Rhode Island Avenue, plus improvements for bicycle crossings at additional intersections. A shared-use trail is proposed from approximately 33rd Place to the Anacostia River. Tree planting and improved lighting are recommended to improve public space quality.

Transit Changes: The Plan recommends evaluating the cost and potential ridership of adding surface transit service between Fort Totten and Fort Lincoln.

The proposed DDOT Action Plan TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.32 to a potential 1.37 with the most extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existin g	2025 Scenarios		
				1	2	3
South Dakota Avenue NE	South Dakota Avenue, NE	Riggs Rd. to New York Ave NE	1.32	1.34	1.36	1.37
		Weighted Average	1.32	1.34	1.36	1.37

12. Georgia Ave. NW/ 7th St. NW & SW

Georgia Avenue is a major north-south travel corridor, particularly for transit, extending from the border at Silver Spring through the downtown core. Commuters from Montgomery County into the District can choose from this corridor, 16th Street NW (Corridor 14), 14th Street NW (further in) (Corridor 13), Connecticut Avenue (Corridor 15), and Wisconsin Avenue (Corridor 16), depending on where they are coming from, where they are going, and anticipated traffic or known disruptions to traffic.

Transit Changes: Georgia Avenue is proposed as one of the premium service transit corridors. High capacity surface transit service (bus rapid transit, streetcar or light rail) is recommended, running the length of the corridor in the curbside travel lane. Signal priority for transit is proposed throughout the corridor. Transit stop curb extensions are proposed for some areas.

TSM Changes: Left hand turn lanes at selected intersections, dedicated on-street parking and loading zones in commercial districts, and improved curbside management are proposed to improve traffic flow and operations. Upgraded crosswalks and pedestrian facilities are recommended throughout the corridor, along with streetscape improvements north of Mount Vernon Square.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.41 to a potential 1.67 with the most extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
Georgia Ave. NW/ 7th St. NW & SW	7th St. NW	Independence Ave to New York Ave	1.39	1.44	1.59	1.61
	Georgia Ave.	New York Ave to Piney Branch Rd	1.56	1.62	1.80	1.82
	Georgia Ave.	Piney Branch Rd to DC border	1.28	1.32	1.52	1.54
		Weighted Average	1.41	1.46	1.64	1.67

13. 14th Street, NW

This north-south corridor runs from Aspen Street near the Walter Reed Medical Center to the approach to the 14th Street Bridge at the downtown core.

TSM Changes: Bike lanes are proposed in each direction from Florida Avenue to Thomas Circle by means of narrowing existing lanes, rather than removing lanes. Curb extensions are proposed at key intersections to facilitate pedestrian crossings. Planning and enforcement are recommended to eliminate double parking and maintain unobstructed curb lanes during peak periods.

Transit Changes: Transit signal priority is proposed from Military Road through downtown. Bus shelters are proposed for upgrades at high volume boarding locations. Transit stop curb extensions are proposed at certain locations.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 2.03 to a potential 2.18 with the most extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existin g	2025 Scenarios		
				1	2	3
14th Street, NW	14th St.	14th St. bridge to Massachusetts Ave NW	2.48	2.58	2.62	2.66
	14th St.	Massachusetts Ave NW to Piney Branch Rd	1.56	1.60	1.62	1.64
	14th St.	Piney Branch Rd to Aspen St	1.28	1.30	1.32	1.33
		Weighted Average	2.03	2.09	2.15	2.18

14. 16th Street, NW

This north-south corridor runs from the District boundary with Silver Spring to the White House.

Transit Changes: Peak period peak direction curbside bus lanes are proposed between Downtown and Columbia Heights, with signal priority for transit. Upgraded transit stops at major boarding locations are also recommended.

TSM Changes: In addition to the transit lane changes noted above, pedestrian crosswalks and intersection re-designs are proposed to improve pedestrian and bicycle safety. Streetscape public space improvements are recommended for Columbia Heights.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.59 to a potential 1.70 with the most extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
16th Street NW	16th Street	K St. to Massachusetts Ave	2.48	2.58	2.62	2.66
	16th Street	Massachusetts Ave to Piney Branch Rd.	1.56	1.60	1.62	1.64
	16th Street	Piney Branch Rd. to DC border	1.28	1.30	1.32	1.33
		Weighted Average	1.59	1.63	1.68	1.70

15. Connecticut Avenue NW

The corridor extends from Chevy Chase Circle at the border with Montgomery County to Farragut Square at 17th and K Street.

TSM Changes: The DDOT Action Plan recommends evaluating the benefits of extending current peak hour parking restrictions by an additional 30 minutes. Current reversible lanes are made more effective through overhead signals and additional warning signs at side streets.

Transit Changes: The Plan recommends running peak period shuttle bus service for specific routes between the Van Ness Metro Station and Chevy Chase Circle. It also proposes improving bus transfer facilities at Van Ness Metrorail Station, and upgrading bus stops at high boarding locations.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.71 to a potential 1.81 with the most extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
Connecticut Avenue NW	Connecticut Ave.	L St to Massachusetts Ave	1.86	1.92	1.94	1.97
	Connecticut Ave.	Massachusetts Ave to Calvert St	1.75	1.80	1.83	1.85
	Connecticut Ave.	Calvert St to DC border	1.54	1.58	1.60	1.62
		Weighted Average	1.71	1.76	1.79	1.81

16. Wisconsin Ave and M Street NW

The corridor runs from Friendship Heights south to M Street in Georgetown, and along M Street east to 23rd Street.

Transit Changes: High capacity surface transit is proposed (bus rapid transit, streetcar or light rail, in mixed use traffic for this analysis) running the length of the corridor in the curbside travel lane, with transit signal priority. Transit stop curb extensions are recommended north of Georgetown.

TSM Changes: Left hand turn lanes are proposed at key intersections to improve traffic operations. Upgraded crosswalks and pedestrian facilities are recommended throughout the corridor, with minimum standards for sidewalks throughout.

The proposed DDOT Vision Plan transit improvements and the regional TDM/TSM measures will increase the average vehicle ridership from the current 1.49 to a potential 1.58 with extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
Wisconsin Ave and M Street NW	M St	17th St NW to Wisconsin Ave	1.86	1.92	2.00	2.03
	Wisconsin Ave	M St to Whitehaven Pkwy	1.21	1.23	1.24	1.26
	Wisconsin Ave	Whitehaven Pkwy to DC Border	1.25	1.27	1.28	1.30
		Weighted Average	1.49	1.52	1.56	1.58

17. Massachusetts Avenue NW

The corridor runs from Montgomery County through upper Northwest and ends at Union Station.

Transit Changes: Transit priority treatments are recommended from Mount Vernon Square to Union Station on this extension of the K Street Busway. Bus stop enhancements are proposed at Mount Vernon Square, a major transfer node.

TSM Changes: Roadways through the center of Ward Circle are proposed to be eliminated. Existing curbs and street operations are maintained north and south of Ward Circle, with a pedestrian/bicycle shared use facility on each side of the street. Pedestrian access and safety improvements are proposed for specific locations throughout the corridor.

The proposed DDOT Action Plan transit and TSM improvements and the regional TDM measures will increase the average vehicle ridership from the current 1.69 to a potential 1.78 with the most extensive TDM programs.

The AVR for the individual sections is as follows:

Name of Corridor	Roadway	Segment	AVR			
			2005 Existing	2025 Scenarios		
				1	2	3
Massachusetts Avenue NW	Massachusetts Ave	North Capitol St to 7th St NW	1.69	1.73	1.76	1.78
	Massachusetts Ave	7th St NW to Dupont Cir	2.48	2.58	2.66	2.70
	Massachusetts Ave	Dupont Cir to Whitehaven Pkwy	1.75	1.80	1.89	1.92
	Massachusetts Ave	Whitehaven Pkwy to DC border	1.49	1.52	1.58	1.60
		Weighted Average	1.69	1.73	1.76	1.78

The previous section demonstrates that the movement of people into the District becomes more efficient as TDM and TSM efforts and enhanced transit services increasingly encourage people to use shared modes such as carpool, vanpool, and all forms of transit, leading to increased AVRs. The following section discusses the movement of vehicles into the District and the associated impact on the transportation infrastructure. The capacity analysis uses the same infrastructure and TDM/TSM measures as the AVR analysis.

What Does Under / At / Over Capacity Mean?

The capacity analysis was based on the procedures found in the Transportation Research Board's Highway Capacity Manual. The terms "Under, At, Over" capacity have specific meaning. The following is a description of what each term means.

Over Capacity – Arterials which are over capacity have a significant amount of delay for long periods during the morning and afternoon peak periods. In many cases the congested peak periods may last more than 3 hours in the morning and the afternoon and will be operating at a Level of Service F for long periods of time. Typical average speeds will be less than 7 miles per hour. The volume to capacity ratios will exceed 1.15.

At Capacity - Arterials which are at capacity also experience poor levels of service but for shorter periods of time. Typical periods of poor operations may last less than one or two hours during the morning or afternoon peak periods. Level of Service will range from E to F and the volume to capacity ratios will range from .85 to 1.15. Typical average speeds will range from 7 to 15 miles per hour.

Under Capacity – Arterials which are under capacity experience relatively few periods of poor level of service. Typical average speeds are greater than 15 miles per hour and correspond to a level of service C and D with a volume to capacity ratio less than .8.

It is important to note that this planning procedure does not take into account variables such as truck traffic, blockages such as illegal parking, crashes, broken down vehicles, bus stops, traffic signal operations, and poor weather conditions. Each of these factors may significantly affect operations and result in a worse level of service.

The procedure used in this analysis takes into account the directionality of the traffic in one of two ways:

1. No capacity adjustment is needed in the methodology for corridors that currently accommodate demand by increasing the number of lanes either through contraflow lanes or prohibiting parking in one lane in the peak direction. Such corridors are documented in the technical appendix.
2. For corridors with a fixed number of lanes in either direction, volumes are estimated at 60 percent in the peak direction, 40 percent off-peak, to estimate directional flow with fixed capacity.

Summary of Capacity Forecasts

The impact analysis of the proposed Land Use on the transportation infrastructure has determined that there are segments within the 17 corridors evaluated that will be at or over capacity even after the various highway, transit and TDM improvements are implemented. In Table 3.8 the segments where we found that the current or future traffic was at or exceeded the existing or future capacity of the road (over-capacity) are identified.

Number of Segments by Capacity Level

Capacity	Existing	Scenario 3
Under	12	11
At	24	20
Over	14	19
Total	50	50

As shown in Table 3.8 and summarized to the left there are 14 segments within the 17 corridors that are currently operating over capacity. In 2025 with the proposed DDOT Action Plan Improvements and expanded TDM programs for Scenario 3, there will be 19 out of 50 segments operating over capacity. Currently 24 segments are at capacity; in 2025 it is anticipated that 20 will be at capacity. Currently 12 segments are under capacity; in 2025 it is anticipated that 11 will be under capacity. Essentially the proposed TSM and TDM improvements will allow the transportation operations not to significantly deteriorate while accommodating increases in traffic flow. The increased transit capacity and expanded TDM/TSM programs will improve the transportation efficiency as shown by the increase of the average vehicle ridership from 1.37 in 2005 to 1.70 in 2025.

Table 3.8 identifies the corridors and the major segments of each corridor, along with the color coding for capacity for each segment for each forecast scenario for 2025. Green indicates segments that are below capacity at the peak, yellow segments that are at capacity, and red segments that are above capacity. Table 3.9 summarizes anticipated peak hour travel speeds on the various segments. Figure 3.6, 3.7 and 3.8 summarize Table 3.8 in map format. For details on the procedure followed to estimate the Level of Service (LOS) please refer to Appendix F.

Table 3.8 Congestion Levels by Corridor Segment for Three Scenarios

Name of Corridor	Roadway	Segment	Key: Green = Under capacity, Yellow = At capacity, Red= Over capacity			
			Existing	Scenario 1	Scenario 2	Scenario 3
Martin Luther King Jr. Avenue, Good Hope Road, and Minnesota Avenue SE & NE	Martin Luther King Jr.	South Capitol St. to Good Hope Rd.	Under	Over	Over	Over
	Good Hope Road	Martin Luther King Jr. to Minnesota Ave.	Under	Over	Over	Over
	Minnesota Ave SE	Good Hope to Pennsylvania Ave	Under	Under	Under	Under
	Minnesota Ave NE	Pennsylvania Ave. to East Capitol St.	At	At	At	Under
Suitland Parkway and South Capitol Street	South Capitol Street	D St. to Suitland Pkwy.	Over	At	At	At
	Suitland Parkway	South Capitol St. to DC border	At	At	At	At
Pennsylvania Avenue, SE	Pennsylvania Avenue, SE	Independence Ave. to DC border	At	At	At	At
East Capitol Street	East Capitol Street	22nd St. NE to Benning Rd.	Over	Over	Over	Over
	East Capitol Street	Benning Rd. to DC border	Under	At	At	At
Benning Rd., Florida Ave., U St., 18th St., Calvert St., 29th St., Cathedral Ave., Woodley Rd.	Benning Rd.	East Capitol St. to Florida Avenue	Over	Over	Over	Over
	Florida Ave.	9th St and U St NW to Benning Rd	At	At	At	At
	U St. NW	18th St. to Florida Ave.	At	At	At	At
	18th St. NW	Adams Mill/ Calvert St. to U St.	Over	Over	Over	Over
	Calvert Street NW	29th St. to 18th St.	At	At	At	Under
	Cathedral Ave. NW	Woodley Rd. to Cathedral Ave.	At	At	At	At
	Woodley Road, NW	Wisconsin Ave. to Cathedral Ave.	At	At	At	At
H St., NW and H St, NE	H Street NW	7th St. NW to North Capitol St.	Under	Over	Over	Over
	H Street NE	North Capitol St. to Florida Ave. NE	Under	Over	Over	Over
New York Avenue NE & NW	New York Avenue NW	7th St. NW to North Capitol St.	At	At	At	At
	New York Avenue NE	North Capitol St. to DC border	At	At	At	At
Rhode Island Avenue	Rhode Island Avenue NW	13th St. NW to North Capitol St.	At	Over	Over	Over
	Rhode Island Avenue NE	North Capitol St. to DC border	Under	Under	Under	Under
Michigan Ave, Irving St./Columbia Rd., Adams Mill Rd., Kingle Rd., Porter St.	Michigan Avenue, NE	12th St. NE to North Capitol St.	At	Over	Over	Over
	Michigan Avenue, NW	North Capitol St. to Irving St.	At	At	At	At
		Irving St. to Porter St.	Under	At	At	Under
		Porter St. to Wisconsin Ave.	Over	Over	Over	Over

Table 3.8 (cont.) Congestion Levels by Corridor Segment for Three Scenarios

Name of Corridor	Roadway	Segment	Key: Green = Under capacity, Yellow = At capacity, Red= Over capacity			
			Existing	Scenario 1	Scenario 2	Scenario 3
Riggs Rd. NE, Missouri Ave NE, Military Rd NW, Nebraska Ave NW	Riggs Rd. NE	South Dakota Ave to Missouri Ave	Over	Over	Over	Over
	Missouri Ave.	Riggs Rd to Military Rd.	At	Over	Over	Over
	Military Rd.	Missouri Ave. to Nebraska Ave.	Over	Over	Over	Over
	Nebraska Ave.	Military Rd. to Foxhall Rd.	Under	Under	Under	Under
South Dakota Avenue NE	South Dakota Avenue, NE	Riggs Rd. to New York Ave NE	At	Under	Under	Under
Georgia Ave. NW/ 7th St. NW & SW	7th St. NW	Independence Ave to New York Ave	At	At	At	At
	Georgia Ave.	New York Ave to Piney Branch Rd	Over	Over	Over	Over
	Georgia Ave.	Piney Branch Rd to DC border	Over	Over	At	At
14th Street, NW	14th St.	14th St. bridge to Massachusetts Ave NW	Over	Over	Over	Over
	14th St.	Massachusetts Ave NW to Piney Branch Rd	At	At	At	At
	14th St.	Piney Branch Rd to Aspen St	Over	At	At	At
16th Street NW	16th Street	K St. to Massachusetts Ave	Under	Over	Over	Over
	16th Street	Massachusetts Ave to Piney Branch Rd.	At	Over	Over	Over
	16th Street	Piney Branch Rd. to DC border	Over	Over	Over	Over
Connecticut Avenue NW	Connecticut Ave.	L St to Massachusetts Ave	Over	At	At	At
	Connecticut Ave.	Massachusetts Ave to Calvert St	At	Over	Over	Over
	Connecticut Ave.	Calvert St to DC border	At	Under	Under	Under
Wisconsin Ave and M Street NW	M St	17th St NW to Wisconsin Ave	Over	At	At	At
	Wisconsin Ave	M St to Whitehaven Pkwy	At	At	At	At
	Wisconsin Ave	Whitehaven Pkwy to DC Border	At	At	At	Under
Massachusetts Avenue NW	Massachusetts Ave	North Capitol St to 7th St NW	Under	At	At	At
	Massachusetts Ave	7th St NW to Dupont Cir	At	At	At	At
	Massachusetts Ave	Dupont Cir to Whitehaven Pkwy	At	Under	Under	Under
	Massachusetts Ave	Whitehaven Pkwy to DC border	Under	Under	Under	Under

Note: Corridor number corresponds with the map from the DDOT Vision Plan Appendix A.

Table 3.9 Anticipated Peak Hour Travel Speeds by Corridor Segment for Three Scenarios

Name of Corridor	Roadway	Segment	Scenarios			
			Existing	1	2	3
Martin Luther King Jr. Avenue, Good Hope Road, and Minnesota Avenue SE & NE	Martin Luther King Jr.	South Capitol St. to Good Hope Rd.	25 mph	< 7 mph	< 7 mph	< 7 mph
	Good Hope Road	Martin Luther King Jr. to Minnesota Ave.	25 mph	< 7 mph	< 7 mph	< 7 mph
	Minnesota Ave SE	Good Hope to Pennsylvania Ave	20 mph	20 mph	20 mph	20 mph
	Minnesota Ave NE	Pennsylvania Ave. to East Capitol St.	10 mph	10 mph	10 mph	20 mph
Suitland Parkway and South Capitol Street	South Capitol Street	D St. to Suitland Pkwy.	< 7 mph	10 mph	10 mph	10 mph
	Suitland Parkway	South Capitol St. to DC border	15 mph	15 mph	15 mph	15 mph
Pennsylvania Avenue, SE	Pennsylvania Avenue, SE	Independence Ave. to DC border	15 mph	15 mph	15 mph	15 mph
East Capitol Street	East Capitol Street	22nd St. NE to Benning Rd.	< 7 mph	< 7 mph	< 7 mph	< 7 mph
	East Capitol Street	Benning Rd. to DC border	25 mph	15 mph	15 mph	15 mph
Benning Rd., Florida Ave., U St., 18th St., Calvert St., 29th St., Cathedral Ave., Woodley Rd.	Benning Rd.	East Capitol St. to Florida Avenue	< 7 mph	< 7 mph	< 7 mph	< 7 mph
	Florida Ave.	9th St and U St NW to Benning Rd	10 mph	10 mph	10 mph	10 mph
	U St. NW	18th St. to Florida Ave.	10 mph	10 mph	10 mph	10 mph
	18th St. NW	Adams Mill/ Calvert St. to U St.	< 7 mph	< 7 mph	< 7 mph	< 7 mph
	Calvert Street NW	29th St. to 18th St.	10 mph	10 mph	10 mph	20 mph
	Cathedral Ave. NW	Woodley Rd. to Cathedral Ave.	15 mph	15 mph	15 mph	15 mph
	Woodley Road, NW	Wisconsin Ave. to Cathedral Ave.	15 mph	15 mph	15 mph	15 mph
H St., NW and H St, NE	H Street NW	7th St. NW to North Capitol St.	20 mph	< 7 mph	< 7 mph	< 7 mph
	H Street NE	North Capitol St. to Florida Ave. NE	20 mph	< 7 mph	< 7 mph	< 7 mph
New York Avenue NE & NW	New York Avenue NW	7th St. NW to North Capitol St.	10 mph	10 mph	10 mph	10 mph
	New York Avenue NE	North Capitol St. to DC border	15 mph	15 mph	15 mph	15 mph
Rhode Island Avenue	Rhode Island Avenue NW	13th St. NW to North Capitol St.	10 mph	< 7 mph	< 7 mph	< 7 mph
	Rhode Island Avenue NE	North Capitol St. to DC border	25 mph	25 mph	25 mph	25 mph
Michigan Ave, Irving St./Columbia Rd., Adams Mill Rd., Klinge Rd., Porter St.	Michigan Avenue, NE	12th St. NE to North Capitol St.	15 mph	< 7 mph	< 7 mph	< 7 mph
	Michigan Avenue, NW	North Capitol St. to Irving St.	10 mph	10 mph	10 mph	10 mph
		Irving St. to Porter St.	25 mph	15 mph	15 mph	25 mph
		Porter St. to Wisconsin Ave.	< 7 mph	< 7 mph	< 7 mph	< 7 mph

Table 3.9 (cont.) Anticipated Peak Hour Travel Speeds by Corridor Segment for Three Scenarios

Name of Corridor	Roadway	Segment	Scenarios			
			Existing	1	2	3
Riggs Rd. NE, Missouri Ave NE, Military Rd NW, Nebraska Ave NW	Riggs Rd. NE	South Dakota Ave to Missouri Ave	< 7 mph	< 7 mph	< 7 mph	< 7 mph
	Missouri Ave.	Riggs Rd to Military Rd.	15 mph	< 7 mph	< 7 mph	< 7 mph
	Military Rd.	Missouri Ave. to Nebraska Ave.	< 7 mph	< 7 mph	< 7 mph	< 7 mph
	Nebraska Ave.	Military Rd. to Foxhall Rd.	25 mph	25 mph	25 mph	25 mph
South Dakota Avenue NE	South Dakota Avenue, NE	Riggs Rd. to New York Ave NE	15 mph	25 mph	25 mph	25 mph
Georgia Ave. NW/ 7th St. NW & SW	7th St. NW	Independence Ave to New York Ave	10 mph	10 mph	10 mph	10 mph
	Georgia Ave.	New York Ave to Piney Branch Rd	< 7 mph	< 7 mph	< 7 mph	< 7 mph
	Georgia Ave.	Piney Branch Rd to DC border	< 7 mph	< 7 mph	15 mph	15 mph
14th Street, NW	14th St.	14th St. bridge to Massachusetts Ave NW	< 7 mph	< 7 mph	< 7 mph	< 7 mph
	14th St.	Massachusetts Ave NW to Piney Branch Rd	15 mph	15 mph	15 mph	15 mph
	14th St.	Piney Branch Rd to Aspen St	< 7 mph	15 mph	15 mph	15 mph
16th Street NW	16th Street	K St. to Massachusetts Ave	20 mph	< 7 mph	< 7 mph	< 7 mph
	16th Street	Massachusetts Ave to Piney Branch Rd.	15 mph	< 7 mph	< 7 mph	< 7 mph
	16th Street	Piney Branch Rd. to DC border	< 7 mph	< 7 mph	< 7 mph	< 7 mph
Connecticut Avenue NW	Connecticut Ave.	L St to Massachusetts Ave	< 7 mph	10 mph	10 mph	10 mph
	Connecticut Ave.	Massachusetts Ave to Calvert St	15 mph	< 7 mph	< 7 mph	< 7 mph
	Connecticut Ave.	Calvert St to DC border	15 mph	25 mph	25 mph	25 mph
Wisconsin Ave and M Street NW	M St	17th St NW to Wisconsin Ave	< 7 mph	10 mph	10 mph	10 mph
	Wisconsin Ave	M St to Whitehaven Pkwy	10 mph	10 mph	10 mph	10 mph
	Wisconsin Ave	Whitehaven Pkwy to DC Border	15 mph	15 mph	15 mph	25 mph
Massachusetts Avenue NW	Massachusetts Ave	North Capitol St to 7th St NW	20 mph	10 mph	10 mph	10 mph
	Massachusetts Ave	7th St NW to Dupont Cir	10 mph	10 mph	10 mph	10 mph
	Massachusetts Ave	Dupont Cir to Whitehaven Pkwy	10 mph	20 mph	20 mph	20 mph
	Massachusetts Ave	Whitehaven Pkwy to DC border	25 mph	25 mph	25 mph	25 mph

Note: Corridor number corresponds with the map from the DDOT Vision Plan Appendix A.

Figure 3.6 Existing Congestion Levels by Corridor Segment

Existing Conditions 2005 Peak Volume/Capacity on Major Corridors

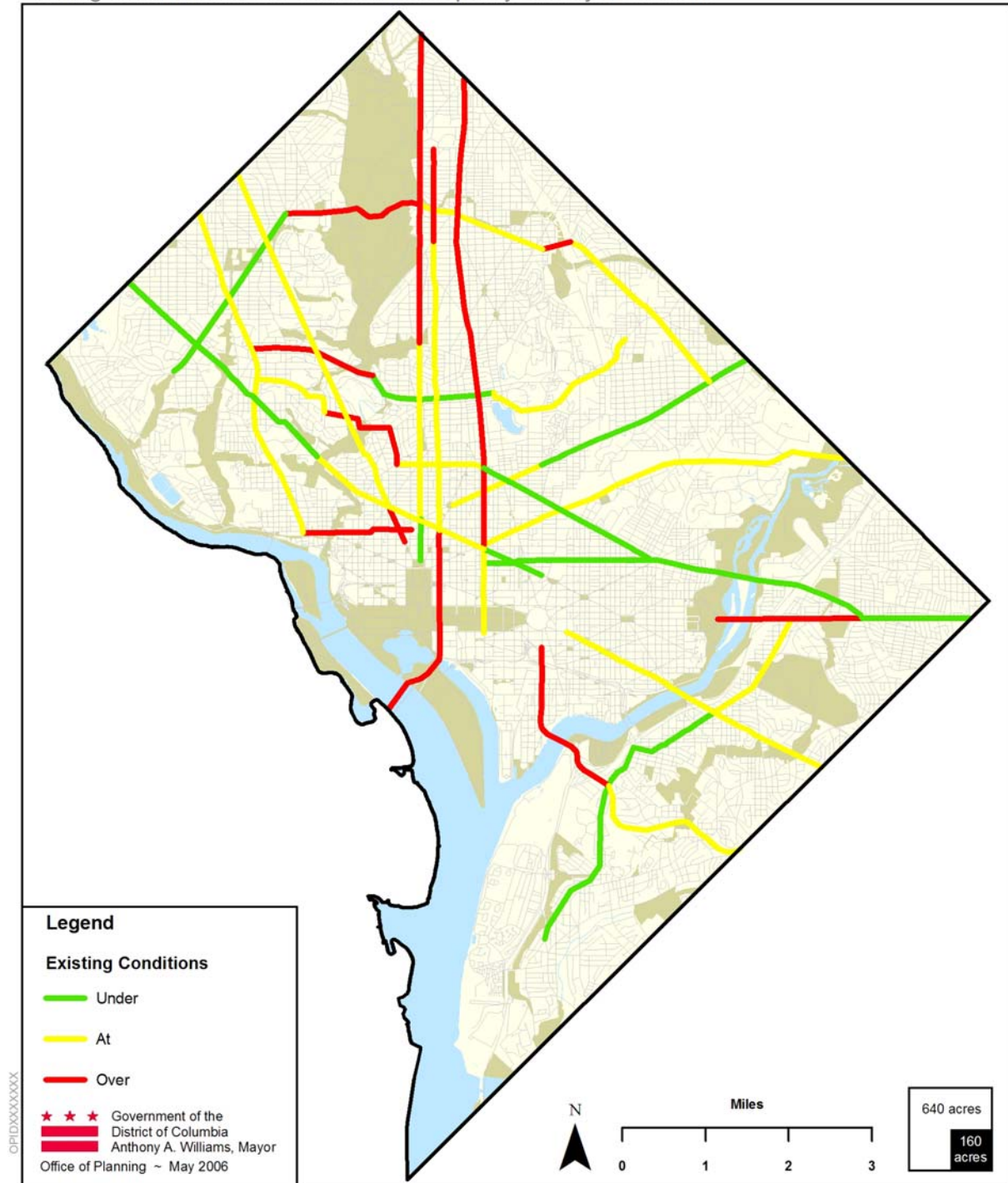


Figure 3.7 Scenario 1 Congestion Levels by Corridor Segment

Scenario 1 2005 Forecast Limited TDM/TSM Peak Volume/Capacity on Major Corridors

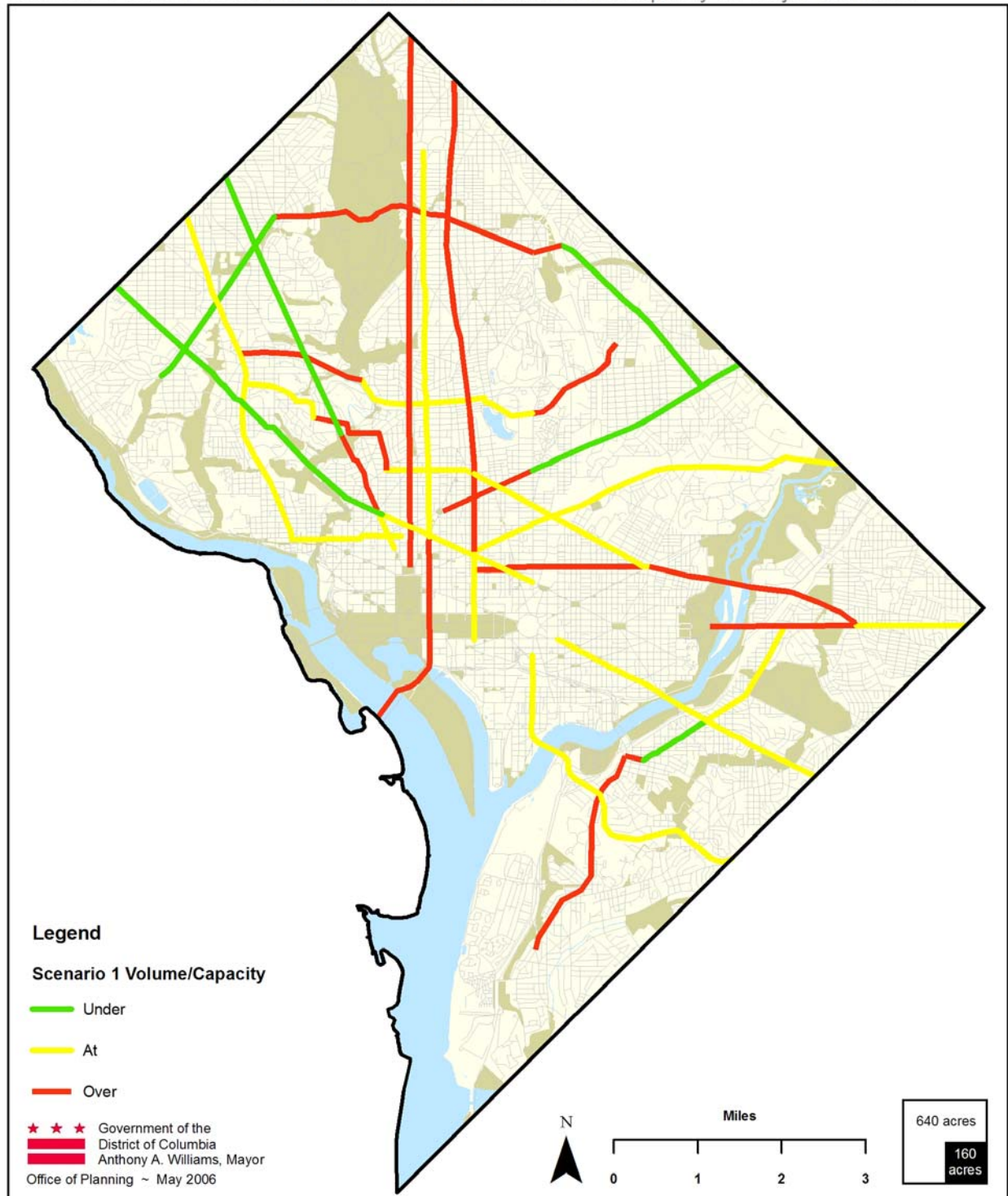


Figure 3.8 Scenario 2 Congestion Levels by Corridor Segment

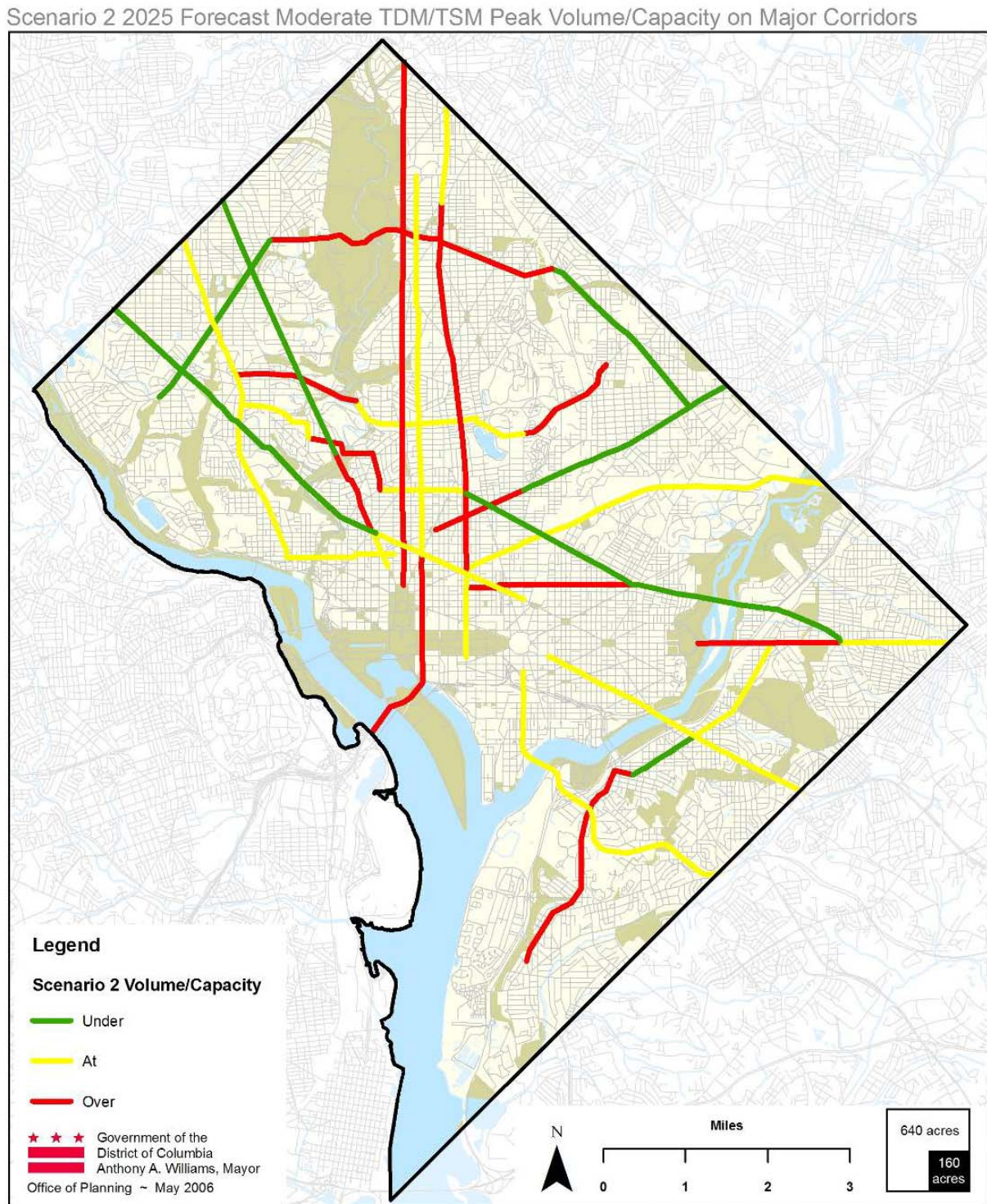
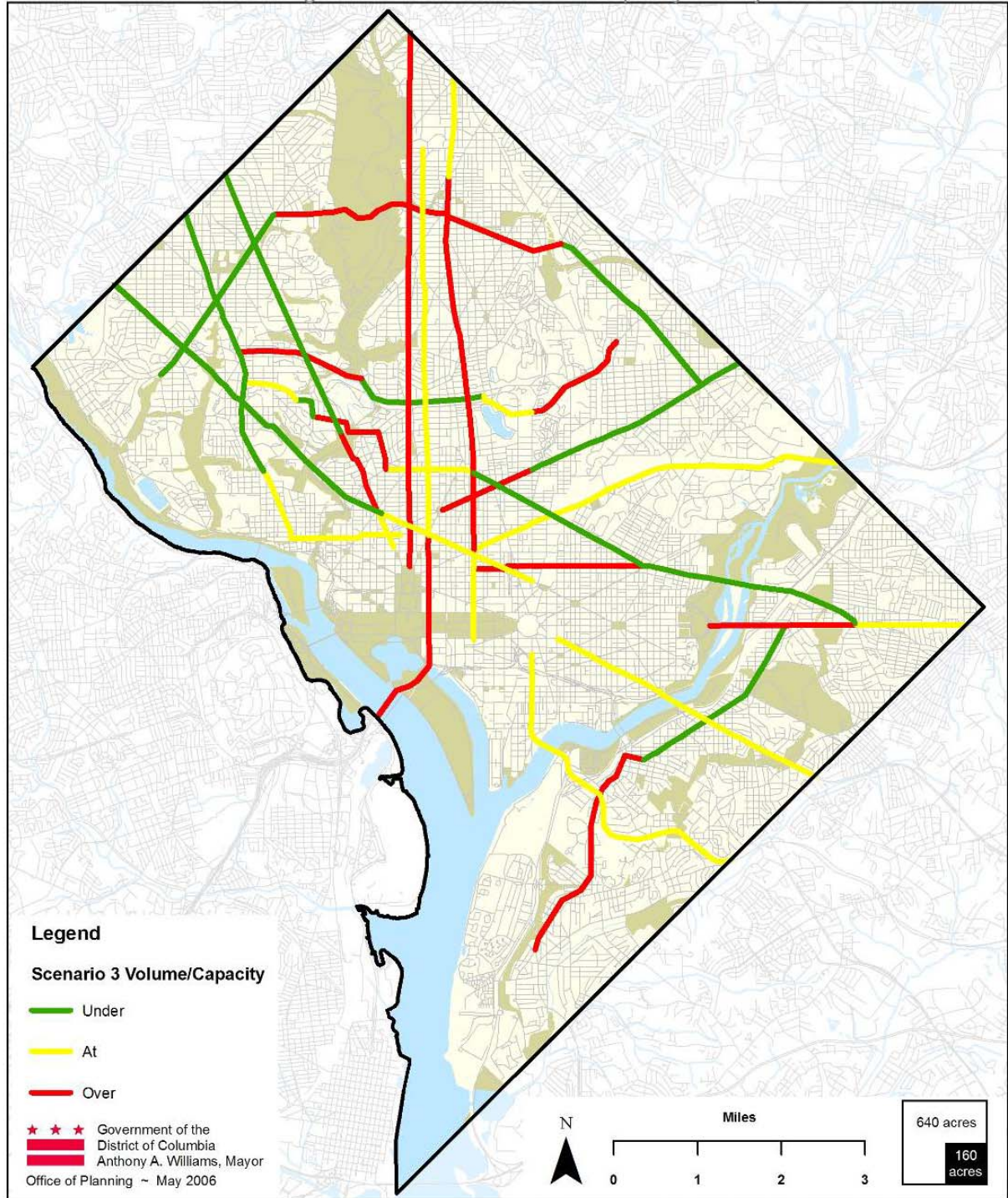


Figure 3.9 Scenario 3 Congestion Levels by Corridor Segment

Scenario 3 2025 Forecast High TDM/TSM Peak Volume/Capacity on Major Corridors



For corridors at or over capacity, additional specific improvement projects beyond the citywide TDM/TSM program and the D.C. Action Plan may be needed to mitigate the transportation impact of future increases in population and employment. Future corridor level studies would be able to identify the specific improvements that will be needed. Among the new or expanded improvements that should be considered are:

- On-street parking management
 - Removal of parking for longer hours beyond peak hours (*expanded*)
 - Increased parking rates (*expanded*)
 - More public parking garages with appropriate signage (including signs indicating number of empty spaces)
 - Revision of commercial loading zones (*expanded*)
 - Review resident parking permit zones (reduce in size to accommodate particular characteristics better)
- Signal Optimization and Coordination
 - Comprehensive multiyear testing and retiming signal program (*expanded*)
 - Semi-actuated signals in low volume signalized intersections (*expanded*)
- Intersection Redesign
 - Move bus stops to far side of an intersection
 - Improve turning radius at intersections with high number of turning vehicles (particularly buses or trucks)
 - Roundabouts
- Improved Transit Service
 - Shorter headways
 - More routes through a segment
 - Better units or technology – streetcar vs. bus
- Arterial Lane Management
 - Contraflow Lanes
 - Exclusive Transit Lanes
- Access Management
 - Turning Lanes (*expanded*)
 - Median Treatments (*expanded*)
 - Driveway Spacing (*expanded*)
 - Signal Spacing (*expanded*)
- Increased Transit Oriented Development
- Safety
 - Verify that signal timing allow safe crossing of pedestrians including the elderly (*expanded*)
 - Striping of pedestrian crossings (*expanded*)

- Improve placement of speed limit signs (*expanded*)
- Install pedestrian signal call buttons (*expanded*)

The safety measures will not increase the capacity per se; however, they are required to ensure that the needs of other road users are considered while trying to maximize the road network's efficiency and increase its capacity.

4 Land Use Analysis Summary & Conclusion

The land use changes identified in DDOT's Action Plan and associated changes in population and employment contribute to a moderate rate of growth in traffic in the District based on the MWCOG forecast model. These increases in traffic may be mitigated through increased efforts of transportation demand management and transportation systems management, consistent with the DDOT 2030 Transportation Vision Plan Action Plan. In particular, policies that encourage bicycle, pedestrian, transit and shared-rides, such as transit oriented development, mixed-use land use, and expanded support of regional programs such as Commuter Connections, will build on the significant strengths of District neighborhoods and centers, to make full use of expanded transit investments.

Table 4.1 summarizes the net daily vehicle and person trips for the three 2025 forecast scenarios compared with the 2005 base. As expected, peak person travel trips increase at a slower rate than off-peak travel trips. As key corridors become congested, not only does travel shift to other routes, where possible, but also to other times and other modes.

Table 4.1 Vehicle Trip and Person-Trip Summary by Scenario

	Scenarios			
	Existing	1	2	3
Peak Person Trips- Transit	383,400	453,203	464,603	475,967
Off-Peak Person Trips - Transit	175,566	219,023	219,023	219,023
Total Person Trips - Transit	558,966	672,226	683,626	694,990
Peak Person Trips- Auto	1,032,073	1,110,023	1,090,807	1,068,078
Off-Peak Person Trips - Auto	1,234,588	1,409,993	1,421,393	1,432,755
Total Person Trips - Auto	2,266,661	2,520,016	2,512,200	2,500,833
Total Peak Person Trips	1,415,473	1,563,226	1,555,410	1,544,045
Total Off-Peak Person Trips	1,410,154	1,629,016	1,640,416	1,651,778
Total Person Trips	2,825,627	3,192,242	3,195,826	3,195,823
Peak Vehicle Trips	897,457	965,234	948,529	928,763
Off-Peak Vehicle Trips	1,073,554	1,226,079	1,235,990	1,245,873
Total Vehicle Trips	1,971,010	2,191,314	2,184,519	2,174,636

Nevertheless, significant trends occurring in the rapidly-expanding metropolitan area also play a key role in the shape and condition of the District's transportation system. Job and household growth in the District are expected to occur at nearly the same rate through 2025, suggesting a commensurate increase in commuting patterns into the District from non-District residents; however, job growth is expected to outpace residential growth in the suburbs during the same

period. As a result, trips originating in the District by residents and ending in suburban job centers will markedly increase in the next 20 years¹⁰.

In order to determine the mode of transportation that District residents will use to commute to these jobs, it is critical to discover where these suburban jobs will be added. If suburban jobs are located in transit-oriented developments, then the likelihood of District residents using transit is far greater than if new suburban jobs occur in areas not served by transit. The latter situation will result in increased use of the automobile by District residents, further eroding the ability of the District's road system to accommodate demand. Therefore, it is critical for the District to continue to work cooperatively with its suburban neighbors in a regional setting to encourage suburban land use development that locates employment centers in areas served by transit, or in concentrations that facilitate formation of carpools and vanpools.

Concurrently, the District should also encourage and support suburban efforts to provide transit to employment centers currently unserved or underserved by transit. These efforts will assist District residents who work in the suburbs to use transit rather than driving to their jobs, and this will have a mitigating effect on congestion on the District's roadways

In sum, this technical report shows two significant findings. First, the proposed transportation strategy measures (TSM), transportation demand management (TDM) measures, and initiatives towards transit oriented development will insure that the future operational congestion will be similar to the current conditions; increases in travel, due to increased population and employment, will not cause a significant worsening of traffic operations or a marked increase in overall delay. Secondly, the average vehicle ridership (AVR) shows a projected average increase to the year 2025. This increase reflects a greater efficiency of the transportation system and a capacity to support the projected population, employment, and associated increased number of trips towards the 20 year timeframe.

¹⁰ The desire line analysis contains detailed trip information by trip origin and trip destination, including the proportion of trips originating outside of the District and terminating in the District

Appendices

Appendix A

Land Use Analysis Methodology

A summary of the methodology used in the land use analysis is provided in Section 3. This appendix contains a more detailed, step-by-step description of the approach.

Inputs:

1. Revised population, employment, and household forecast (2005-2025) for the District of Columbia
2. 10 Planning Areas defined by OP for the DC Comprehensive Plan (2005)
3. CTPP results of journey-to-work trips and modal share by OP planning area (Desire Line Analysis, Section 2)
4. DDOT Vision Plan Appendix A (2005): Corridor Recommendations
 - Traffic volume by major segments
 - Transit ridership by major segments
5. Metropolitan Washington Regional Activity Center Household and Employment Projections for 2025
6. DC Transit Improvements Alternatives Analysis - Recommended 2030 System Plan considering improvements through 2025.
7. “Great Streets” corridor information – where available
8. DDOT traffic counts
9. Average vehicle occupancy rate for DC (2000 census)
10. WMATA transit trip data
11. MWCOG model

Assumptions:

1. Peak-hour traffic – Use peak hour growth information obtained from the run of the MWCOG model for each general corridor area to obtain peak hour volumes.
2. 24 hour traffic volumes – Use the off-peak growth information (24-hour volumes minus AM and PM Peak volumes) obtained from the MWCOG model run for each general corridor area. Off-peak traffic volumes typically increase at a somewhat greater rate than defined peak volumes, as peak “shoulders” broaden into early morning, midday, and evening periods to avoid traffic congestion.
3. Future mode split for corridors identified in the 2030 System Plan is modified to reflect underlying data on changes in improved accessibility, transit travel times and mode share, as well as TDM strategies.

Procedure:

Update Land Use Forecasts Pertaining to Vision Plan Corridors

1. Run the Metropolitan Washington Council of Governments (MWCOG) regional model, Version 2.1/TP+, Release C (dated March 26, 2004) using updated household and employment values for 319 zones in the District of Columbia provided by DCOP, and using Round 6.3 socioeconomic forecast database for the region outside DC. This required Citilabs TP+ 2.1 or higher with supporting software Cube Voyager 3.2 to execute.

- a. Data – The initial data files include TP+ batch files and scripts for a thirty-four-step model referred to as Release C for the years of 2005, 2015, 2025 and 2030. The travel demand forecast model was run for 2005 and 2025.
 - b. Modeling Procedures – The initial step of the analysis was to verify an analysis run in Cube 3.2 using the data files and scripts for 2005. A complete run was made and appeared to execute without any problems. The execution time of the model run on a 2.8 MHz computer exceeds eight hours.
 - c. MWCOG Version 2.1 is generally referred to as the “transit constraint” which was implemented to reflect the assumption that the core capacity of the transit system will not support expected passenger demand beyond the projected 2005 level.
2. Identify the links and nodes in the MWCOG model that correspond to the DDOT Vision Plan corridors
 3. Identify and document segments of each corridor that pertain to each OP Planning Area – hereafter referred to as the Corridor Table
 4. Compare output traffic volumes with Round 6.3 COG Model traffic volumes for sample comparable links (from Corridor Table) for forecast years 2025 and 2030
 5. Document changes from Round 6.3 traffic volumes for key links (per Corridor Table)
 6. Document percent change growth from base year to forecast year for key corridor links (per Corridor Table)
 7. Identify traffic volume and apply the average vehicle occupancy rate in DC to convert vehicle trips to person trips for each corridor.
 8. Transit mode split is applied (inversely) to obtain base forecast person trips including transit trips, excluding pedestrian and bicycle trips.

Calculate Travel Mode Share

1. Identify total trips and transit trips between the ten planning areas for the base year (2005), and the forecast year (2030), “build” and “no-build” scenarios (DC and WMATA Transit Improvement Plan) (developed using Round 6.3 COG Model). This analysis was performed by DMJM Harris for WMATA and provided to the Study Team.
2. Identify the change in total trips and transit trips for each pair of planning areas between the base year and the forecast year “no-build” scenario
3. Compare the total travel and the transit mode split between the “build” and “no-build” scenarios for each pair of planning areas.
4. Apply the percent increase in transit in each pair of planning areas to the “enhanced” corridor or corridors to provide a revised mode split- e.g., street car or rapid bus, with other corridors remaining constant. The areas corresponding to each corridor were identified and matched to the corresponding pairs of the matrix.
5. Using the ITE “A Toolbox for Alleviating Traffic Congestion” report, the MWCOG “Emission Reduction from Transportation Control Measures”, and the ITE “Implementing Effective Travel Demand Management Measures” report, assess the general impact of TDM and Transportation System Management (TSM) strategies, such as increased telecommuting, increased carpooling, parking buy-outs, etc. Outcomes will be expressed for three scenarios: a high scenario with more aggressive TDM/TSM leading to reduced VMT, a low scenario continuing current TDM/TSM practices (including transit improvements) leading to maximum vehicle use, and moderate scenario

with a central case with moderate TDM/TSM. It is assumed that the low scenario with continued current TDM/TSM practices in DC is consistent with the MWCOG assumptions and strategies.

6. The sum of AM and PM peak travel volumes based on the COG model (three hours each, six hours total) is divided by six to approximate peak hour travel. As the peak hour becomes more congested, travel patterns adjust first to the shoulders of the peak hour and then to the off-peak hours. Peak hour travel volumes are compared with the number of available lanes (and the type of roadway) to compare volume to capacity and estimate travel speeds for the three scenarios.
7. Classify major corridors into the following categories: “over capacity”, “at capacity”, or “near capacity” for the three scenarios. Capacity refers to the peak hours.

Appendix B

Work trip patterns among 39 designated neighborhood clusters within DC

There are 39 neighborhood clusters throughout the city, each made up of three to five neighborhoods. Neighborhood clusters are used by the D.C. government for budgeting, planning, service delivery, and analysis purposes.

Work trip patterns among 39 neighborhood clusters were tabulated. The names associated with each neighborhood cluster number are presented below in Table B.1. The tabulation is provided as Table B.2.

Table B.1 Cluster Numbers and Names

Cluster Number	Cluster Name
1	Kalorama Heights, Adams Morgan, Lanier Heights
2	Columbia Heights, Mt. Pleasant, Pleasant Plains, Park View
3	Howard University, Le Droit Park, Cardozo/Shaw
4	Georgetown, Burleith/Hillandale
5	West End, Foggy Bottom, GWU
6	Dupont Circle, Connecticut Avenue/K Street
7	Shaw, Logan Circle
8	Central Washington, Chinatown, Penn Quarters, Mount Vernon Square, North Capitol Street
9	Southwest Employment Area, Southwest/Waterfront, Fort McNair, Buzzard Point
10	Hawthorne, Barnaby Woods, Chevy Chase
11	Friendship Heights, American University Park, Tenleytown
12	North Cleveland Park, Forest Hills, Van Ness Spring Valley, Palisades, Wesley Heights, Foxhall Crescent, Foxhall Village, Georgetown
13	Reservoir
14	Cathedral Heights, McLean Gardens, Glover Park Cleveland Park, Woodley Park, Massachusetts Avenue Heights, Woodland-Normanstone
15	Terrace
16	Colonial Village, Shepherd Park, North Portal Estates
17	Takoma, Brightwood, Manor Park
18	Brightwood Park, Crestwood, Petworth
19	Lamont Riggs, Queens Chapel, Fort Totten, Pleasant Hill
20	North Michigan Park, Michigan Park, University Heights
21	Edgewood, Bloomingdale, Truxton Circle, Eckington
22	Brookland, Brentwood, Langdon
23	Ivy City, Arboretum, Trinidad, Carver Langston
24	Woodridge, Fort Lincoln, Gateway
25	Union Station, Stanton Park, Kingman Park
26	Capitol Hill, Lincoln Park
27	Near Southeast, Navy Yard
28	Historic Anacostia
29	Eastland Gardens, Kenilworth
30	Mayfair, Hillbrook, Mahanings Heights
31	Deanwood, Burrville, Grant Park, Lincoln Heights, Fairmont Heights
32	River Terrace, Benning, Greenway, Dupont Park
33	Capitol View, Marshall Heights, Benning Heights
34	Twining, Fairlawn, Randle Highlands, Penn Branch, Fort Davis Park, Fort Dupont

Cluster Number	Cluster Name
35	Fairfax Village, Naylor Gardens, Hillcrest, Summit Park
36	Woodland/Fort Stanton, Garfield Heights, Knox Hill
37	Sheridan, Barry Farm, Buena Vista
38	Douglas, Shipley Terrace
39	Congress Heights, Bellevue, Washington Highlands

Table B.2 Work trip patterns among 39 designated neighborhood clusters within DC

		Destination							
		1	2	3	4	5	6	7	8
		Adams Morgan	Columbia Heights/ Mt. Pleasant	Howard University/ Cardozo/Shaw	Georgetown	Foggy Bottom/ GWU	Dupont Circle	Logan Circle	Downtown/ Chinatown/ Mount Vernon Square
1	Adams Morgan	637	136	85	446	1015	2750	112	2048
2	Columbia Heights/ Mt. Pleasant	505	992	370	501	801	2411	434	2759
3	Howard University/ Cardozo/Shaw	57	68	634	158	195	504	143	602
4	Georgetown	73	43	112	1126	594	1183	26	844
5	Foggy Bottom/ GWU	9	94	41	207	1026	919	25	486
6	Dupont Circle	260	6	51	428	1174	3143	177	2064
7	Logan Circle	188	40	195	355	788	2139	513	2195
8	Downtown/ Chinatown/ Mount Vernon Square	55	34	4	69	179	397	73	718
9	SW/Waterfront	49	16	65	72	305	600	97	946
10	Chevy Chase	67	55	52	136	477	1269	49	941
11	Friendship Heights/ Tenleytown	55	8	23	154	636	732	15	927
12	Forest Hills	54	26	15	172	522	1273	62	1163
13	Palisades/ Foxhall Crescent	86	32	23	428	850	1133	78	897
14	McLean Gardens/ Glover Park	131	30	51	909	873	1458	80	1356
15	Cleveland Park/ Woodley Park	131	12	6	114	563	1213	17	1040
16	Shepherd Park		31	80	6	55	243	45	215
17	Takoma	106	109	145	225	261	550	153	1191
18	Crestwood/Petworth	147	169	221	324	574	1409	338	2250
19	Fort Totten	32	74	142	87	132	571	79	845
20	North Michigan Park/ University Heights	45	48	104	55	102	480	101	611
21	Edgewood/Eckington	142	70	180	135	199	536	90	718
22	Brookland	21	10	98	115	102	474	63	793
23	Ivy City	30	38	72	80	119	321	57	658
24	Fort Lincoln	7	15	39	32	39	179	57	337
25	Union Station	54	64	188	231	243	1007	195	1781
26	Capitol Hill	93	42	86	209	512	1398	180	2027
27	SE/Navy Yard		15	7	6		31		14
28	Historic Anacostia	7	17	28	12	44	108	53	207
29	Eastland Gardens/ Kenilworth		10	11	5	52	26	21	125
30	Mayfair/Hillbrook	12	31	28	28	89	165	46	264
31	Deanwood/ Lincoln Height	17	16	29	21	185	177	73	563
32	River Terrace/Benning	32	29	75	34	116	327	73	428
33	Marshall Heights/ Benning Heights	33	42	63	54	154	356	67	808
34	Randle Highlands/ Fort Davis Park	5	32	110	82	208	611	124	1196
35	Hillcrest/Summit Park	18	7	51	39	109	233		425
36	Woodland/Fort Stanton	9	6			23	84	10	136
37	Vista	9	13	7	9	55	113	16	212
38	Douglas/Shipleigh Terrace	39	8	34	7	109	198	35	496
39	Congress Heights/ Washington	26	36	78	111	202	482	88	862
Total		3241	2524	3603	7182	13682	31203	3865	36148

Table B.2 Work trip patterns among 39 designated neighborhood clusters within DC (cont.)

		9	10	11	12	13	14	15
		SW/ Waterfront	Chevy Chase	Friendship Heights/ Tenleytown	Forest Hills	Palisades/ Foxhall Crescent	McLean Gardens/ Glover Park	Cleveland Park/ Woodley Park
1	Adams Morgan	508	20	177	125	78	128	115
2	Columbia Heights/ Mt.	702	84	280	249	280	258	208
3	Howard University/	245		45	29	51	36	18
4	Georgetown	189	14	70	9	268	264	71
5	GWU	158		94	67	49	6	33
6	Dupont Circle	563	24	97	47	139	207	107
7	Logan Circle	418	28	140	131	43	103	37
8	Chinatown/ Mount Vernon Square	127		41	39	26	41	9
9	SW/Waterfront	814	6	10	14	37	37	3
10	Chevy Chase	233	320	221	203	76	116	81
11	Friendship Heights/	246	33	233	74	118	131	46
12	Forest Hills	266	50	100	291	87	83	104
13	Palisades/ Foxhall Crescent	224	23	114	89	565	255	62
14	McLean Gardens/ Glover Park	279	34	222	124	427	333	163
15	Cleveland Park/ Woodley Park	273	21	98	70	118	47	256
16	Shepherd Park	47	10		6	16	24	8
17	Takoma	406	94	99	104	41	101	83
18	rt	483	49	276	255	207	183	103
19	Fort Totten	242	10	95	54	11	19	15
20	Park/ University Heights	164		25	55	12	19	8
21	ton	268	6	39	70	77	16	58
22	Brookland	248	30	65	18	30	29	17
23	Ivy City	153	12	49	12	31	36	57
24	Fort Lincoln	64		66	6	19	12	
25	Union Station	579	11	51	26	51	107	38
26	Capitol Hill	1008	14	79	40	17	63	47
27	SE/Navy Yard	18	10					
28	Historic Anacostia	102					16	23
29	Eastland Gardens/	41		4	6			
30	Mayfair/Hillbrook	112	6	32	20	5	19	6
31	Deanwood/ Lincoln Height	240			15	43	10	12
32	River Terrace/Benning	207	7	56	30	6	30	12
33	Marshall Heights/ Benning Heights	363	7	42	23	6	30	5
34	Randle Highlands/ Fort	447		11	56	56	62	22
35	Hillcrest/Summit Park	173	10	9	21	8	37	22
36	Woodland/Fort Stanton	62		13	7	10	9	
37	Vista	109	17	13	16	15	17	
38	Douglas/Shipley Terrace	246		8	23	14	35	27
39	Congress Heights/	449	8	49	20	34	14	8
Total		11476	958	3023	2444	3071	2933	1884

Table B.2 Work trip patterns among 39 designated neighborhood clusters within DC (cont.)

		16	17	18	19	20	21	22	23
						North Michigan Park/ University Heights	Edgewood/ Eckington	Brookland	Ivy City
		Shepherd Park	Takoma	Crestwood/ Petworth	Fort Totten				
1	Morgan		39	49		54	110	44	49
2	Columbia Heights/	37	75	187	31	205	270	165	132
3	Howard University/		20	11	11	37	125	28	46
4	n			59		131	275	7	63
5	Bottom/					82	61	65	76
6	Circle	10	11	9	9	48	105		25
7	Circle	26	54	5	39	8	104	78	63
8	Chinatown/ Mount Vernon	10	16	32	26	13	19	23	14
9	ront		7	18	37	9	90	16	35
10	Chase		76	15	6		100	13	
11	Friendship Heights/				35	18	25	7	16
12	Forest Hills			42	8	29	73	13	26
13	Palisades/ Foxhall		5	36	10	9	46	10	31
14	McLean Gardens/ Cleveland	6	6	9		18	96	13	15
15	Park/	7				30	86		6
16	Park	51	26	20		22	26		6
17	Takoma	8	307	175	44	99	210	84	52
18	/Petworth	19	162	419	107	149	329	175	92
19	Fort Totten	9	69	53	117	87	170	84	35
20	Michigan Park/		41	57	55	383	126	104	38
21	Eckington	38	33	49	47	92	538	136	26
22	Brookland	8		34	58	121	146	191	50
23	Ivy City		17	13	45	47	125	79	397
24	Lincoln			28		46	64	70	29
25	Station	7	36	78	75	52	197	194	131
26	Capitol Hill		20	31		97	117	84	95
27	Yard					8		12	
28	Anacostia		17	5		19	11	11	14
29	Eastland Gardens/			14		4	27	18	8
30	brook		20	14	18	13	54	34	54
31	Deanwood / Lincoln		10	13	10	21	113	74	21
32	River Terrace/Be		25	50	6	51	82	51	59
33	Marshall Heights/		27		12	37	73	74	66
34	Randle Highlands/	18	21	22	13	55	124	148	67
35	Hillcrest/S ummit	3		7		38	37	32	6
36	Woodland/ Fort			8	8	4	16	6	3
37	uena Vista			17		8	24	20	43
38	Douglas/S hipley		24	19	10	5	43	32	8
39	Congress Heights/	10	45	57	44	71	187	84	102
Total		267	1209	1655	881	2220	4424	2279	1999

Table B.2 Work trip patterns among 39 designated neighborhood clusters within DC (cont.)

		24	25	26	27	28	29	30	31	32
		Fort Lincoln	Union Station	Capitol Hill	SE/Navy Yard	Historic Anacostia	Eastland Gardens/ Kenilworth	Mayfair/ Hillbrook	Deanwood/ Lincoln Height	River Terrace/ Benning
1	Morgan	27	205	154						
2	Columbia Heights/	147	452	210	31	8		16	7	6
3	Howard University/	37	120	132	6					
4	n	33	81	141	14				27	10
5	Bottom/	9	41	62						
6	Circle	20	263	205	8				18	
7	Circle	10	406	220	57	19		10		26
8	Chinatown/ Mount Vernon	15	176	114	11				6	
9	ront	20	215	155	8					12
10	Chase	20	97	98	28			8		
11	Friendship Heights/		51	56		5			14	
12	Forest Hills	7	118	86					5	
13	Palisades/ Foxhall	9	122	126	12					
14	McLean Gardens/ Cleveland	21	118	157	10					
15	Park/	28	94	42	10					
16	Park		29	27		6			21	
17	Takoma	33	356	92	24			7		
18	Petworth	137	451	227	53	22		49	34	27
19	Fort Totten	36	222	65	31	26		24		
20	Michigan Park/	37	129	85	42			6		14
21	Eckington	55	338	106	63	31		12	11	7
22	Brookland	69	126	137	35		10	6	24	6
23	Ivy City	53	193	62	37	11			42	7
24	Lincoln	54	145	80	25	8	4	14		40
25	Station	31	720	396	58	22		51	40	28
26	Capitol Hill	35	733	1313	81	19	7	13	12	28
27	Yard		4	24	19			8	9	
28	Anacostia	28	86	71	36	7		24		7
29	Eastland Gardens/		11	17			20	12	6	12
30	brook	17	66	47	44	15	23	61	58	22
31	Deanwood/ Lincoln	16	211	120	9		5	32	133	32
32	River Terrace/Be	59	150	109	22		11	22		71
33	Marshall Heights/	6	186	129	41			36	41	50
34	Randle Highlands/	76	325	238	79	26	22	32	37	50
35	Hillcrest/Su mmit Park		126	77	24	21		21	9	19
36	Woodland/ Fort	4	70	25	11	12				
37	uena Vista	12	38	103	19	21		15		9
38	Douglas/Sh ipley	13	154	132	17	39		6	6	12
39	Congress Heights/	71	202	112	104	19	16	30	14	25
Total		1245	7630	5752	1069	337	118	515	574	520

Table B.2 Work trip patterns among 39 designated neighborhood clusters within DC (cont.)

		33	34	35	36	37	38	39	Total
		Marshall Heights	Randle Highlands / Fort Davis Park	Hillcrest/ Summit Park	Woodland/ Fort Stanton	Sheridan / Buena Vista	Douglas/ Shipley Terrace	Congress Heights/ Washington Highlands	
1	Morgan					9		9	9133
2	Columbia Heights/	52	39	14		46		45	13017
3	Howard University/	5	36	12		12	11	6	3452
4	n		6				34	38	5821
5	Bottom/						31		3661
6	Circle		14					17	9273
7	Circle	16	40	6	32	35	15	17	8627
8	Chinatown/ Mount Vernon					6			2325
9	Front	6	50	16	12	28		30	3871
10	Chase						6		4803
11	Friendship Heights/								3702
12	Forest Hills		10						4733
13	Palisades/ Foxhall								5327
14	McLean Gardens/	10				8	10		7023
15	Cleveland Park/		10	9					4361
16	Park		9			25			1118
17	Takoma	27	29	9		23	6	18	5339
18	/Petworth		36	8		15	21	30	9622
19	Fort Totten	29	6	6	9	12	5	47	3626
20	Michigan Park/				10			12	3048
21	Eckington		44	8	6	71	5		4404
22	Brookland	15	25	12		8			3282
23	Ivy City		16	9		9	15	9	3003
24	Lincoln		27	12		22	7	8	1651
25	Station	12	7	37		9	10	26	6943
26	Capitol Hill	6	32		12	14	7	35	8710
27	Yard								293
28	Anacostia					18			1083
29	Eastland Gardens/		6						572
30	brook	7	8	10	10		8	5	1591
31	Deanwood / Lincoln		11				15	15	2386
32	River Terrace/Be	6	5			20		14	2403
33	Marshall Heights/	69	47	6			21	32	3138
34	Randle Highlands/	26	224	20	7	95	59	68	5010
35	Hillcrest/S ummit	6	48	62	10	18		11	1877
36	Woodland/ Fort		4	15	36		8	9	752
37	uena Vista	6	7	24		86		27	1248
38	Douglas/S hipley	7	40	34	29	14	119	28	2222
39	Congress Heights/	16	52	17	25	25	89	394	4434
Total		321	888	346	198	628	502	950	166884

Appendix C

Regional Activity Center (RAC) Cluster Descriptions: Comparison with MWCOG RACs and Clusters

The full descriptions for each RAC and the cross reference with MWCOG RACs and RAC clusters are found in this Appendix. The numbers below refer to the RAC key, with cluster numbers from RAC Table 2 in *italics*:

1. Bethesda CBD/NIH (17, 27) (*cluster 8 minus Friendship Heights*)
2. Silver Spring CBD (18) (*cluster 12*)
3. Rosslyn-Ballston Corridor including Rosslyn, Virginia Square, Courthouse, Clarendon, and Ballston (8, 9, 10, 13,14) (*cluster 7*)
4. Pentagon –Crystal City Corridor including the Pentagon, Pentagon City and Crystal City (11, 12, 21) (*part of cluster 2 except Eisenhower Ave and Central Washington Alexandria*)
5. Tyson’s Corner (26) (*cluster 5*)
6. Central Washington Alexandria and Eisenhower Avenue (7, 6) (*part of cluster 2*)
7. I-270 Corridor including White Flint, Twinbrook, Rockville Town Center, Shady Grove/Life Sciences Center, Rock Spring Park, Germantown and North Frederick Avenue (19, 20, 49, 28, 29, 41, 42) (*clusters 3, 8 and 9*)
8. Beltway East (define as Largo Center Circle (55), New Carrollton/ Transit Triangle (46)) (*cluster 19*)
9. Baltimore-Washington Corridor - 295, Route 1 and Route 29 (define as Greenbelt/NASA (45) US 1/ Green Line (44), Route 1 (47) and White Oak (43)) (*cluster 6*)
10. Dulles Corridor (define as Reston East (24), Reston West (25), Herndon (22), Dulles Corner (33), Dulles East (34), Dulles West (35), Corporate Dulles (54), 28 North (53)) (*clusters 4, 10 and 14*)
11. I-66 Corridor (define as Merrifield/Dunn Loring (23), City of Fairfax GMU (39), Fairfax Center (36), Bull Run-Sudley Area (57- future land use analysis) and Innovation (48)) (*clusters 11, 17, and 16*)
12. I-395/95 Corridor (define as Beltway South (32), Baileys Crossroads/ Skyline (16), Beauregard Street (30), Springfield (38), I-95 Corridor/ Engineer Proving Grounds (37) – and Potomac Mills (58- future land use) (*clusters 13,18, 21*)

Appendix D
Detailed Desire Line Analysis Tables

Upper Northwest North: Planning Area A		Average Weekday Work Trips				
To Upper Northwest North Planning Area A From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	1,116	317	391	651	2,475
B	Upper Northwest West	471	74	50	17	612
C	Mid-City	405	131	410	72	1,018
D	Upper Northeast	404	202	132	31	769
E	Near Northwest	300	101	150	159	710
F	Central Washington	82	31	54	27	194
G	Capitol Hill	237	49	106	0	392
H	Anacostia Waterfront	173	54	96	25	348
I	East Washington	215	74	70	22	381
J	Anacostia Upper Southeast	274	107	187	26	594
Subtotal Inbound to Area From Within DC		3,677	1,140	1,646	1,030	7,493

To Upper Northwest North- Planning Area A From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	776	106	16	-	898
Maryland	Frederick	81	-	-	-	81
Maryland	Howard	481	22	8	-	511
Maryland	Montgomery	4,363	663	481	80	5,587
Maryland	Prince George's	4,846	1,137	684	46	6,713
Virginia	Arlington	384	56	30	-	470
Virginia	Fairfax	1,211	170	90	-	1,471
Virginia	Loudoun	58	5	13	-	76
Virginia	Prince William	129	91	6	5	231
Virginia	City of Alexandria	347	60	31	16	454
Virginia	City of Fairfax	34	-	-	-	34
Virginia	City of Falls Church	7	-	-	-	7
	All Other Externals	1,673	429	100	147	2,349
Subtotal Inbound from Outside DC		14,390	2,739	1,459	294	18,882
Total Inbound to Area: DC + Outside		18,067	3,879	3,105	1,324	26,375

From Upper Northwest North - Planning Area A A To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	1,116	317	391	651	2,475
B	Upper Northwest West	939	247	698	24	1,908
C	Mid-City	592	212	295	145	1,244
D	Upper Northeast	631	206	158	69	1,064
E	Near Northwest	1,420	250	1,128	73	2,871
F	Central Washington	3,326	1,258	3,734	291	8,609
G	Capitol Hill	182	57	126	15	380
H	Anacostia Waterfront	339	96	108	45	588
I	East Washington	97	8	28	0	133
J	Anacostia Upper Southeast	248	9	88	0	345
Total Outbound Within DC		8,890	2,660	6,754	1,313	19,617

From Upper Northwest North Planning Area A To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	115	13	18	-	146
52	Balt-Washington	26	-	5	-	31
53	Beltway East	158	28	31	6	223
54	Bethesda	89	41	12	-	142
55	Dulles	84	25	13	-	122
56	I-270 Corridor	172	15	53	-	240
57	I-395 & I-95 Corridor	25	20	-	-	45
58	I-66 Corridor	110	32	52	10	204
59	Pentagon	189	77	209	10	485
60	Rosslyn	105	11	59	-	175
61	Silver Spring	50	-	93	-	143
62	Tysons	120	15	49	13	197
	All Other Externals	4,275	1,156	1,596	203	7,230
Total Outbound Outside DC		5,518	1,433	2,190	242	9,383
Total Outbound DC + Outside		14,408	4,093	8,944	1,555	29,000
Total Inbound + Outbound		32,475	7,972	12,049	2,879	55,375

Upper Northwest North: Planning Area A		Percent			
To Upper Northwest North Planning Area A From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others
A	Upper Northwest North	45%	13%	16%	26%
B	Upper Northwest West	77%	12%	8%	3%
C	Mid-City	40%	13%	40%	7%
D	Upper Northeast	53%	26%	17%	4%
E	Near Northwest	42%	14%	21%	22%
F	Central Washington	42%	16%	28%	14%
G	Capitol Hill	60%	13%	27%	0%
H	Anacostia Waterfront	50%	16%	28%	7%
I	East Washington	56%	19%	18%	6%
J	Anacostia Upper Southeast	46%	18%	31%	4%
Subtotal Inbound to Area From Within DC		49%	15%	22%	14%
To Upper Northwest North- Planning Area A From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others
State	Jurisdiction				
Maryland	Anne Arundel	86%	12%	2%	0%
Maryland	Frederick	100%	0%	0%	0%
Maryland	Howard	94%	4%	2%	0%
Maryland	Montgomery	78%	12%	9%	1%
Maryland	Prince George's	72%	17%	10%	1%
Virginia	Arlington	82%	12%	6%	0%
Virginia	Fairfax	82%	12%	6%	0%
Virginia	Loudoun	76%	7%	17%	0%
Virginia	Prince William	56%	39%	3%	2%
Virginia	City of Alexandria	76%	13%	7%	4%
Virginia	City of Fairfax	100%	0%	0%	0%
Virginia	City of Falls Church	100%	0%	0%	0%
	All Other Externals	71%	18%	4%	6%
Subtotal Inbound from Outside DC		76%	15%	8%	2%
Total Inbound to Area: DC + Outside		69%	15%	12%	5%

From Upper Northwest North - Planning Area A To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others
A	Upper Northwest North	45%	13%	16%	26%
B	Upper Northwest West	49%	13%	37%	1%
C	Mid-City	48%	17%	24%	12%
D	Upper Northeast	59%	19%	15%	6%
E	Near Northwest	49%	9%	39%	3%
F	Central Washington	39%	15%	43%	3%
G	Capitol Hill	48%	15%	33%	4%
H	Anacostia Waterfront	58%	16%	18%	8%
I	East Washington	73%	6%	21%	0%
J	Anacostia Upper Southeast	72%	3%	26%	0%
Total Outbound Within DC		45%	14%	34%	7%

From Upper Northwest North Planning Area A To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others
RAC Number	Regional Activity Center Name				
51	Alexandria	79%	9%	12%	0%
52	Balt-Washington	84%	0%	16%	0%
53	Beltway East	71%	13%	14%	3%
54	Bethesda	63%	29%	8%	0%
55	Dulles	69%	20%	11%	0%
56	I-270 Corridor	72%	6%	22%	0%
57	I-395 & I-95 Corridor	56%	44%	0%	0%
58	I-66 Corridor	54%	16%	25%	5%
59	Pentagon	39%	16%	43%	2%
60	Rosslyn	60%	6%	34%	0%
61	Silver Spring	35%	0%	65%	0%
62	Tysons	61%	8%	25%	7%
	All Other Externals	59%	16%	22%	3%
Total Outbound Outside DC		59%	15%	23%	3%
Total Outbound DC + Outside		50%	14%	31%	5%
Total Inbound + Outbound		59%	14%	22%	5%

Upper Northwest North: Planning Area A To Upper Northwest North Planning Area A From Within DC: Inbound From:			Percent Within Each Section	Percent of All Inbound
Total				
100%	A	Upper Northwest North	33%	9%
100%	B	Upper Northwest West	8%	2%
100%	C	Mid-City	14%	4%
100%	D	Upper Northeast	10%	3%
100%	E	Near Northwest	9%	3%
100%	F	Central Washington	3%	1%
100%	G	Capitol Hill	5%	1%
100%	H	Anacostia Waterfront	5%	1%
100%	I	East Washington	5%	1%
100%	J	Anacostia Upper Southeast	8%	2%
100%	Subtotal Inbound to Area From Within DC		100%	28%

To Upper Northwest North- Planning Area A From Outside DC- Inbound			Percent Within Each Section	
Total	State	Jurisdiction		
100%	Maryland	Anne Arundel	5%	3%
100%	Maryland	Frederick	0%	0%
100%	Maryland	Howard	3%	2%
100%	Maryland	Montgomery	30%	21%
100%	Maryland	Prince George's	36%	25%
100%	Virginia	Arlington	2%	2%
100%	Virginia	Fairfax	8%	6%
100%	Virginia	Loudoun	0%	0%
100%	Virginia	Prince William	1%	1%
100%	Virginia	City of Alexandria	2%	2%
100%	Virginia	City of Fairfax	0%	0%
100%	Virginia	City of Falls Church	0%	0%
100%		All Other Externals	12%	9%
100%	Subtotal Inbound from Outside DC		100%	72%
				100%

From Upper Northwest North - Planning Area A To Within DC - Outbound:			Percent Within Each Section	Percent of All Outbound
Total				
100%	A	Upper Northwest North	13%	9%
100%	B	Upper Northwest West	10%	7%
100%	C	Mid-City	6%	4%
100%	D	Upper Northeast	5%	4%
100%	E	Near Northwest	15%	10%
100%	F	Central Washington	44%	30%
100%	G	Capitol Hill	2%	1%
100%	H	Anacostia Waterfront	3%	2%
100%	I	East Washington	1%	0%
100%	J	Anacostia Upper Southeast	2%	1%
100%	Total Outbound Within DC		100%	68%

From Upper Northwest North Planning Area A To Outside DC (RACs and other):			Percent Within Each Section	
Total	RAC Number	Regional Activity Center Name		
100%	51	Alexandria	2%	1%
100%	52	Balt-Washington	0%	0%
100%	53	Beltway East	2%	1%
100%	54	Bethesda	2%	0%
100%	55	Dulles	1%	0%
100%	56	I-270 Corridor	3%	1%
100%	57	I-395 & I-95 Corridor	0%	0%
100%	58	I-66 Corridor	2%	1%
100%	59	Pentagon	5%	2%
100%	60	Rosslyn	2%	1%
100%	61	Silver Spring	2%	0%
100%	62	Tysons	2%	1%
100%		All Other Externals	77%	25%
100%	Total Outbound Outside DC		100%	32%
				100%

Upper Northwest West: Planning Area B		Average Weekday Work Trips				
To Upper Northwest West Planning Area B From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	939	247	698	24	1,908
B	Upper Northwest West	3,026	556	529	1,938	6,049
C	Mid-City	781	440	1,135	266	2,622
D	Upper Northeast	441	61	272	12	786
E	Near Northwest	888	146	542	554	2,130
F	Central Washington	40	42	147	18	247
G	Capitol Hill	288	37	172	12	509
H	Anacostia Waterfront	164	25	178	35	402
I	East Washington	190	73	93	0	356
J	Anacostia Upper Southeast	303	112	319	0	734
Subtotal Inbound to Area From Within DC		7,060	1,739	4,085	2,859	15,743

To Upper Northwest West- Planning Area B From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	435	59	51	-	545
Maryland	Frederick	316	45	7	-	368
Maryland	Howard	365	71	18	-	454
Maryland	Montgomery	8,857	1,522	1,370	157	11,906
Maryland	Prince George's	4,144	1,226	860	32	6,262
Virginia	Arlington	1,470	194	322	82	2,068
Virginia	Fairfax	3,494	512	167	67	4,240
Virginia	Loudoun	303	28	15	-	346
Virginia	Prince William	310	135	30	8	483
Virginia	City of Alexandria	689	169	121	42	1,021
Virginia	City of Fairfax	103	19	15	-	137
Virginia	City of Falls Church	77	7	4	-	88
	All Other Externals	2,018	519	234	212	2,983
Subtotal Inbound from Outside DC		22,581	4,506	3,214	600	30,901
Total Inbound to Area: DC + Outside		29,641	6,245	7,299	3,459	46,644

From Upper Northwest West - Planning Area B To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	471	74	50	17	612
B	Upper Northwest West	3,026	556	529	1,938	6,049
C	Mid-City	341	95	223	94	753
D	Upper Northeast	201	75	72	35	383
E	Near Northwest	3,017	880	2,747	860	7,504
F	Central Washington	6,034	1,986	9,624	808	18,452
G	Capitol Hill	127	47	129	11	314
H	Anacostia Waterfront	167	46	108	10	331
I	East Washington	23	0	14	0	37
J	Anacostia Upper Southeast	141	14	19	12	186
Total Outbound Within DC		13,548	3,773	13,515	3,785	34,621

From Upper Northwest West Planning Area B To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	268	52	121	-	441
52	Balt-Washington	24	-	-	-	24
53	Beltway East	261	9	15	-	285
54	Bethesda	83	10	43	-	136
55	Dulles	299	9	-	7	315
56	I-270 Corridor	188	37	61	-	286
57	I-395 & I-95 Corridor	115	-	7	-	122
58	I-66 Corridor	160	18	38	-	216
59	Pentagon	168	28	132	-	328
60	Rosslyn	331	53	97	24	505
61	Silver Spring	35	5	20	-	60
62	Tysons	489	40	21	-	550
	All Other Externals	6,530	631	1,360	418	8,939
Total Outbound Outside DC		8,951	892	1,915	449	12,207
Total Outbound DC + Outside		22,499	4,665	15,430	4,234	46,828
Total Inbound + Outbound		52,140	10,910	22,729	7,694	93,473

Upper Northwest West: Planning Area B		Percent				Total
To Upper Northwest West Planning Area B From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	
A	Upper Northwest North	49%	13%	37%	1%	100%
B	Upper Northwest West	50%	9%	9%	32%	100%
C	Mid-City	30%	17%	43%	10%	100%
D	Upper Northeast	56%	8%	35%	2%	100%
E	Near Northwest	42%	7%	25%	26%	100%
F	Central Washington	16%	17%	60%	7%	100%
G	Capitol Hill	57%	7%	34%	2%	100%
H	Anacostia Waterfront	41%	6%	44%	9%	100%
I	East Washington	53%	21%	26%	0%	100%
J	Anacostia Upper Southeast	41%	15%	43%	0%	100%
Subtotal Inbound to Area From Within DC		45%	11%	26%	18%	100%

To Upper Northwest West- Planning Area B From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	80%	11%	9%	0%	100%
Maryland	Frederick	86%	12%	2%	0%	100%
Maryland	Howard	80%	16%	4%	0%	100%
Maryland	Montgomery	74%	13%	12%	1%	100%
Maryland	Prince George's	66%	20%	14%	1%	100%
Virginia	Arlington	71%	9%	16%	4%	100%
Virginia	Fairfax	82%	12%	4%	2%	100%
Virginia	Loudoun	88%	8%	4%	0%	100%
Virginia	Prince William	64%	28%	6%	2%	100%
Virginia	City of Alexandria	67%	17%	12%	4%	100%
Virginia	City of Fairfax	75%	14%	11%	0%	100%
Virginia	City of Falls Church	88%	8%	5%	0%	100%
	All Other Externals	68%	17%	8%	7%	100%
Subtotal Inbound from Outside DC		73%	15%	10%	2%	100%
Total Inbound to Area: DC + Outside		64%	13%	16%	7%	

From Upper Northwest West - Planning Area B To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	77%	12%	8%	3%	100%
B	Upper Northwest West	50%	9%	9%	32%	100%
C	Mid-City	45%	13%	30%	12%	100%
D	Upper Northeast	52%	20%	19%	9%	100%
E	Near Northwest	40%	12%	37%	11%	100%
F	Central Washington	33%	11%	52%	4%	100%
G	Capitol Hill	40%	15%	41%	4%	100%
H	Anacostia Waterfront	50%	14%	33%	3%	100%
I	East Washington	62%	0%	38%	0%	100%
J	Anacostia Upper Southeast	76%	8%	10%	6%	100%
Total Outbound Within DC		39%	11%	39%	11%	100%

From Upper Northwest West Planning Area B To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	61%	12%	27%	0%	100%
52	Balt-Washington	100%	0%	0%	0%	100%
53	Beltway East	92%	3%	5%	0%	100%
54	Bethesda	61%	7%	32%	0%	100%
55	Dulles	95%	3%	0%	2%	100%
56	I-270 Corridor	66%	13%	21%	0%	100%
57	I-395 & I-95 Corridor	94%	0%	6%	0%	100%
58	I-66 Corridor	74%	8%	18%	0%	100%
59	Pentagon	51%	9%	40%	0%	100%
60	Rosslyn	66%	10%	19%	5%	100%
61	Silver Spring	58%	8%	33%	0%	100%
62	Tysons	89%	7%	4%	0%	100%
	All Other Externals	73%	7%	15%	5%	100%
Total Outbound Outside DC		73%	7%	16%	4%	100%
Total Outbound DC + Outside		48%	10%	33%	9%	
Total Inbound + Outbound		56%	12%	24%	8%	

Upper Northwest West: Planning Area B			
To Upper Northwest West Planning Area B From Within DC: Inbound From:		Percent Within Each Section	Percent of All Inbound
A	Upper Northwest North	12%	4%
B	Upper Northwest West	38%	13%
C	Mid-City	17%	6%
D	Upper Northeast	5%	2%
E	Near Northwest	14%	5%
F	Central Washington	2%	1%
G	Capitol Hill	3%	1%
H	Anacostia Waterfront	3%	1%
I	East Washington	2%	1%
J	Anacostia Upper Southeast	5%	2%
Subtotal Inbound to Area From Within DC		100%	34%
To Upper Northwest West- Planning Area B From Outside DC- Inbound		Percent Within Each Section	
State	Jurisdiction		
Maryland	Anne Arundel	2%	1%
Maryland	Frederick	1%	1%
Maryland	Howard	1%	1%
Maryland	Montgomery	39%	26%
Maryland	Prince George's	20%	13%
Virginia	Arlington	7%	4%
Virginia	Fairfax	14%	9%
Virginia	Loudoun	1%	1%
Virginia	Prince William	2%	1%
Virginia	City of Alexandria	3%	2%
Virginia	City of Fairfax	0%	0%
Virginia	City of Falls Church	0%	0%
	All Other Externals	10%	6%
Subtotal Inbound from Outside DC		100%	66%
			100%
From Upper Northwest West - Planning Area B To Within DC - Outbound:		Percent Within Each Section	Percent of All Outbound
A	Upper Northwest North	2%	1%
B	Upper Northwest West	17%	13%
C	Mid-City	2%	2%
D	Upper Northeast	1%	1%
E	Near Northwest	22%	16%
F	Central Washington	53%	39%
G	Capitol Hill	1%	1%
H	Anacostia Waterfront	1%	1%
I	East Washington	0%	0%
J	Anacostia Upper Southeast	1%	0%
Total Outbound Within DC		100%	74%
From Upper Northwest West Planning Area B To Outside DC (RACs and other):		Percent Within Each Section	
RAC Number	Regional Activity Center Name		
51	Alexandria	4%	1%
52	Balt-Washington	0%	0%
53	Beltway East	2%	1%
54	Bethesda	1%	0%
55	Dulles	3%	1%
56	I-270 Corridor	2%	1%
57	I-395 & I-95 Corridor	1%	0%
58	I-66 Corridor	2%	0%
59	Pentagon	3%	1%
60	Rosslyn	4%	1%
61	Silver Spring	0%	0%
62	Tysons	5%	1%
	All Other Externals	73%	19%
Total Outbound Outside DC		100%	26%
			100%

Mid-City: Planning Area C		Average Weekday Work Trips				
To Mid-City Planning Area C From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	592	212	295	145	1,244
B	Upper Northwest West	341	95	223	94	753
C	Mid-City	674	354	683	2,133	3,844
D	Upper Northeast	482	159	141	87	869
E	Near Northwest	393	46	311	508	1,258
F	Central Washington	70	22	23	6	121
G	Capitol Hill	197	118	134	26	475
H	Anacostia Waterfront	54	52	189	33	328
I	East Washington	218	71	156	6	451
J	Anacostia Upper Southeast	261	65	258	7	591
Subtotal Inbound to Area From Within DC		3,282	1,194	2,413	3,045	9,934

To Mid-City - Planning Area C From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	588	56	105	-	749
Maryland	Frederick	134	9	8	-	151
Maryland	Howard	399	77	57	-	533
Maryland	Montgomery	4,481	1,114	1,799	66	7,460
Maryland	Prince George's	6,334	1,420	1,295	174	9,223
Virginia	Arlington	425	56	228	-	709
Virginia	Fairfax	984	176	128	18	1,306
Virginia	Loudoun	24	-	-	-	24
Virginia	Prince William	179	57	17	-	253
Virginia	City of Alexandria	194	90	108	-	392
Virginia	City of Fairfax	13	14	3	-	30
Virginia	City of Falls Church	-	-	-	-	-
	All Other Externals	1,070	226	208	126	1,630
Subtotal Inbound from Outside DC		14,825	3,295	3,956	384	22,459
Total Inbound to Area: DC + Outside		18,107	4,489	6,369	3,429	32,393

From Mid-City - Planning Area C To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	405	131	410	72	1,018
B	Upper Northwest West	781	440	1,135	266	2,622
C	Mid-City	674	354	683	2,133	3,844
D	Upper Northeast	536	137	371	184	1,228
E	Near Northwest	1,194	632	2,355	1,614	5,795
F	Central Washington	2,609	1,214	7,714	1,885	13,422
G	Capitol Hill	213	58	248	15	534
H	Anacostia Waterfront	289	57	385	56	787
I	East Washington	57	38	11	33	139
J	Anacostia Upper Southeast	109	73	103	31	316
Total Outbound Within DC		6,867	3,134	13,415	6,289	29,705

From Mid-City Planning Area C To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	150	34	40	16	240
52	Balt-Washington	22	-	4	3	29
53	Beltway East	122	42	81	17	262
54	Bethesda	47	-	35	10	92
55	Dulles	139	5	44	10	198
56	I-270 Corridor	132	18	119	29	298
57	I-395 & I-95 Corridor	28	6	6	-	40
58	I-66 Corridor	108	65	10	7	190
59	Pentagon	202	5	266	15	488
60	Rosslyn	99	30	159	10	298
61	Silver Spring	70	-	15	7	92
62	Tysons	191	37	103	5	336
	All Other Externals	3,638	1,198	2,522	485	7,843
Total Outbound Outside DC		4,948	1,440	3,404	614	10,406
Total Outbound DC + Outside		11,815	4,574	16,819	6,903	40,111
Total Inbound + Outbound		29,921	9,063	23,188	10,332	72,504

Mid-City: Planning Area C		Percent				Total
To Mid-City Planning Area C From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	
A	Upper Northwest North	48%	17%	24%	12%	100%
B	Upper Northwest West	45%	13%	30%	12%	100%
C	Mid-City	18%	9%	18%	55%	100%
D	Upper Northeast	55%	18%	16%	10%	100%
E	Near Northwest	31%	4%	25%	40%	100%
F	Central Washington	58%	18%	19%	5%	100%
G	Capitol Hill	41%	25%	28%	5%	100%
H	Anacostia Waterfront	16%	16%	58%	10%	100%
I	East Washington	48%	16%	35%	1%	100%
J	Anacostia Upper Southeast	44%	11%	44%	1%	100%
Subtotal Inbound to Area From Within DC		33%	12%	24%	31%	100%

To Mid-City - Planning Area C From Outside DC: Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	79%	7%	14%	0%	100%
Maryland	Frederick	89%	6%	5%	0%	100%
Maryland	Howard	75%	14%	11%	0%	100%
Maryland	Montgomery	60%	15%	24%	1%	100%
Maryland	Prince George's	69%	15%	14%	2%	100%
Virginia	Arlington	60%	8%	32%	0%	100%
Virginia	Fairfax	75%	13%	10%	1%	100%
Virginia	Loudoun	100%	0%	0%	0%	100%
Virginia	Prince William	71%	23%	7%	0%	100%
Virginia	City of Alexandria	49%	23%	28%	0%	100%
Virginia	City of Fairfax	43%	47%	10%	0%	100%
Virginia	City of Falls Church	n/a	n/a	n/a	n/a	n/a
	All Other Externals	66%	14%	13%	8%	100%
Subtotal Inbound from Outside DC		66%	15%	18%	2%	100%
Total Inbound to Area: DC + Outside		56%	14%	20%	11%	

From Mid-City - Planning Area C To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	40%	13%	40%	7%	100%
B	Upper Northwest West	30%	17%	43%	10%	100%
C	Mid-City	18%	9%	18%	55%	100%
D	Upper Northeast	44%	11%	30%	15%	100%
E	Near Northwest	21%	11%	41%	28%	100%
F	Central Washington	19%	9%	57%	14%	100%
G	Capitol Hill	40%	11%	46%	3%	100%
H	Anacostia Waterfront	37%	7%	49%	7%	100%
I	East Washington	41%	27%	8%	24%	100%
J	Anacostia Upper Southeast	34%	23%	33%	10%	100%
Total Outbound Within DC		23%	11%	45%	21%	100%

From Mid-City Planning Area C To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	63%	14%	17%	7%	100%
52	Balt-Washington	76%	0%	14%	10%	100%
53	Beltway East	47%	16%	31%	6%	100%
54	Bethesda	51%	0%	38%	11%	100%
55	Dulles	70%	3%	22%	5%	100%
56	I-270 Corridor	44%	6%	40%	10%	100%
57	I-395 & I-95 Corridor	70%	15%	15%	0%	100%
58	I-66 Corridor	57%	34%	5%	4%	100%
59	Pentagon	41%	1%	55%	3%	100%
60	Rosslyn	33%	10%	53%	3%	100%
61	Silver Spring	76%	0%	16%	8%	100%
62	Tysons	57%	11%	31%	1%	100%
	All Other Externals	46%	15%	32%	6%	100%
Total Outbound Outside DC		48%	14%	33%	6%	100%
Total Inbound DC + Outside		29%	11%	42%	17%	
Total Inbound + Outbound		41%	12%	32%	14%	

Mid-City: Planning Area C		Percent	
To Mid-City Planning Area C From Within DC:		Within Each	Percent of
Inbound From:		Section	All Inbound
A	Upper Northwest North	13%	4%
B	Upper Northwest West	8%	2%
C	Mid-City	39%	12%
D	Upper Northeast	9%	3%
E	Near Northwest	13%	4%
F	Central Washington	1%	0%
G	Capitol Hill	5%	1%
H	Anacostia Waterfront	3%	1%
I	East Washington	5%	1%
J	Anacostia Upper Southeast	6%	2%
Subtotal Inbound to Area From Within DC		100%	31%
To Mid-City - Planning Area C From Outside DC-			
Inbound		Percent	
State	Jurisdiction	Within Each	
		Section	
Maryland	Anne Arundel	3%	2%
Maryland	Frederick	1%	0%
Maryland	Howard	2%	2%
Maryland	Montgomery	33%	23%
Maryland	Prince George's	41%	28%
Virginia	Arlington	3%	2%
Virginia	Fairfax	6%	4%
Virginia	Loudoun	0%	0%
Virginia	Prince William	1%	1%
Virginia	City of Alexandria	2%	1%
Virginia	City of Fairfax	0%	0%
Virginia	City of Falls Church	0%	0%
	All Other Externals	7%	5%
Subtotal Inbound from Outside DC		100%	69%
			100%
From Mid-City - Planning Area C To Within DC -		Percent	Percent of
Outbound:		Within Each	All
		Section	Outbound
A	Upper Northwest North	3%	3%
B	Upper Northwest West	9%	7%
C	Mid-City	13%	10%
D	Upper Northeast	4%	3%
E	Near Northwest	20%	14%
F	Central Washington	45%	33%
G	Capitol Hill	2%	1%
H	Anacostia Waterfront	3%	2%
I	East Washington	0%	0%
J	Anacostia Upper Southeast	1%	1%
Total Outbound Within DC		100%	74%
From Mid-City Planning Area C To Outside DC			
(RACs and other):		Percent	
RAC Number	Regional Activity Center Name	Within Each	
		Section	
51	Alexandria	2%	1%
52	Balt-Washington	0%	0%
53	Beltway East	3%	1%
54	Bethesda	1%	0%
55	Dulles	2%	0%
56	I-270 Corridor	3%	1%
57	I-395 & I-95 Corridor	0%	0%
58	I-66 Corridor	2%	0%
59	Pentagon	5%	1%
60	Rosslyn	3%	1%
61	Silver Spring	1%	0%
62	Tysons	3%	1%
	All Other Externals	75%	20%
Total Outbound Outside DC		100%	26%

Upper Northeast: Planning Area D		Average Weekday Work Trips				
To Upper Northeast Planning Area D From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	631	206	158	69	1,064
B	Upper Northwest West	201	75	72	35	383
C	Mid-City	536	137	371	184	1,228
D	Upper Northeast	958	192	290	760	2,200
E	Near Northwest	175	139	230	296	840
F	Central Washington	53	13	28	24	118
G	Capitol Hill	396	118	127	70	711
H	Anacostia Waterfront	218	13	96	42	369
I	East Washington	296	109	213	0	618
J	Anacostia Upper Southeast	448	158	308	17	931
Subtotal Inbound to Area From Within DC		3,912	1,160	1,893	1,497	8,462

To Upper Northeast - Planning Area D From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	538	95	22	-	655
Maryland	Frederick	97	9	4	-	110
Maryland	Howard	305	21	11	-	337
Maryland	Montgomery	2,330	445	443	17	3,235
Maryland	Prince George's	6,557	1,659	687	169	9,072
Virginia	Arlington	436	76	166	36	714
Virginia	Fairfax	995	431	253	43	1,722
Virginia	Loudoun	87	-	6	3	96
Virginia	Prince William	178	69	4	7	258
Virginia	City of Alexandria	283	53	44	-	380
Virginia	City of Fairfax	31	-	12	-	43
Virginia	City of Falls Church	11	21	7	-	39
	All Other Externals	1,874	513	219	80	2,686
Subtotal Inbound from Outside DC		13,722	3,392	1,878	355	19,347
Total Inbound to Area: DC + Outside		17,634	4,552	3,771	1,852	27,809

From Upper Northeast - Planning Area D To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	404	202	132	31	769
B	Upper Northwest West	441	61	272	12	786
C	Mid-City	482	159	141	87	869
D	Upper Northeast	958	192	290	760	2,200
E	Near Northwest	651	284	698	29	1,662
F	Central Washington	2,582	909	2,968	202	6,661
G	Capitol Hill	209	101	125	24	459
H	Anacostia Waterfront	386	159	72	36	653
I	East Washington	123	42	65	0	230
J	Anacostia Upper Southeast	188	50	103	7	348
Total Outbound Within DC		6,424	2,159	4,866	1,188	14,637

From Upper Northeast Planning Area D To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	105	-	27	6	138
52	Balt-Washington	30	7	-	-	37
53	Beltway East	233	39	100	-	372
54	Bethesda	21	-	8	-	29
55	Dulles	27	8	-	-	35
56	I-270 Corridor	73	14	16	-	103
57	I-395 & I-95 Corridor	7	5	8	-	20
58	I-66 Corridor	51	27	6	-	84
59	Pentagon	176	31	119	12	338
60	Rosslyn	45	48	66	5	164
61	Silver Spring	22	-	67	-	89
62	Tysons	43	5	64	-	112
	All Other Externals	3,135	551	1,126	117	4,928
Total Outbound Outside DC		3,968	735	1,606	140	6,449
Total Outbound DC + Outside		10,392	2,894	6,472	1,328	21,086
Total Inbound + Outbound		28,026	7,446	10,243	3,180	48,895

Upper Northeast: Planning Area D		Percent				Total
To Upper Northeast Planning Area D From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	
A	Upper Northwest North	59%	19%	15%	6%	100%
B	Upper Northwest West	52%	20%	19%	9%	100%
C	Mid-City	44%	11%	30%	15%	100%
D	Upper Northeast	44%	9%	13%	35%	100%
E	Near Northwest	21%	17%	27%	35%	100%
F	Central Washington	45%	11%	24%	20%	100%
G	Capitol Hill	56%	17%	18%	10%	100%
H	Anacostia Waterfront	59%	4%	26%	11%	100%
I	East Washington	48%	18%	34%	0%	100%
J	Anacostia Upper Southeast	48%	17%	33%	2%	100%
Subtotal Inbound to Area From Within DC		46%	14%	22%	18%	100%

To Upper Northeast - Planning Area D From Outside DC - Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	82%	15%	3%	0%	100%
Maryland	Frederick	88%	8%	4%	0%	100%
Maryland	Howard	91%	6%	3%	0%	100%
Maryland	Montgomery	72%	14%	14%	1%	100%
Maryland	Prince George's	72%	18%	8%	2%	100%
Virginia	Arlington	61%	11%	23%	5%	100%
Virginia	Fairfax	58%	25%	15%	2%	100%
Virginia	Loudoun	91%	0%	6%	3%	100%
Virginia	Prince William	69%	27%	2%	3%	100%
Virginia	City of Alexandria	74%	14%	12%	0%	100%
Virginia	City of Fairfax	72%	0%	28%	0%	100%
Virginia	City of Falls Church	28%	54%	18%	0%	100%
	All Other Externals	70%	19%	8%	3%	100%
Subtotal Inbound from Outside DC		71%	18%	10%	2%	100%
Total Inbound to Area: DC + Outside		63%	16%	14%	7%	

From Upper Northeast - Planning Area D To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	53%	26%	17%	4%	100%
B	Upper Northwest West	56%	8%	35%	2%	100%
C	Mid-City	55%	18%	16%	10%	100%
D	Upper Northeast	44%	9%	13%	35%	100%
E	Near Northwest	39%	17%	42%	2%	100%
F	Central Washington	39%	14%	45%	3%	100%
G	Capitol Hill	46%	22%	27%	5%	100%
H	Anacostia Waterfront	59%	24%	11%	6%	100%
I	East Washington	53%	18%	28%	0%	100%
J	Anacostia Upper Southeast	54%	14%	30%	2%	100%
Total Outbound Within DC		44%	15%	33%	8%	100%

From Upper Northeast Planning Area D To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	76%	0%	20%	4%	100%
52	Balt-Washington	81%	19%	0%	0%	100%
53	Beltway East	63%	10%	27%	0%	100%
54	Bethesda	72%	0%	28%	0%	100%
55	Dulles	77%	23%	0%	0%	100%
56	I-270 Corridor	71%	14%	16%	0%	100%
57	I-395 & I-95 Corridor	35%	25%	40%	0%	100%
58	I-66 Corridor	61%	32%	7%	0%	100%
59	Pentagon	52%	9%	35%	4%	100%
60	Rosslyn	27%	29%	40%	3%	100%
61	Silver Spring	25%	0%	75%	0%	100%
62	Tysons	38%	4%	57%	0%	100%
	All Other Externals	64%	11%	23%	2%	100%
Total Outbound Outside DC		62%	11%	25%	2%	100%
Total Outbound DC + Outside		49%	14%	31%	6%	
Total Inbound + Outbound		57%	15%	21%	7%	

Upper Northeast: Planning Area D			
To Upper Northeast Planning Area D From Within DC: Inbound From:		Percent Within Each Section	Percent of All Inbound
A	Upper Northwest North	13%	4%
B	Upper Northwest West	5%	1%
C	Mid-City	15%	4%
D	Upper Northeast	26%	8%
E	Near Northwest	10%	3%
F	Central Washington	1%	0%
G	Capitol Hill	8%	3%
H	Anacostia Waterfront	4%	1%
I	East Washington	7%	2%
J	Anacostia Upper Southeast	11%	3%
Subtotal Inbound to Area From Within DC		100%	30%
To Upper Northeast - Planning Area D From Outside DC- Inbound		Percent Within Each Section	
State	Jurisdiction		
Maryland	Anne Arundel	3%	2%
Maryland	Frederick	1%	0%
Maryland	Howard	2%	1%
Maryland	Montgomery	17%	12%
Maryland	Prince George's	47%	33%
Virginia	Arlington	4%	3%
Virginia	Fairfax	9%	6%
Virginia	Loudoun	0%	0%
Virginia	Prince William	1%	1%
Virginia	City of Alexandria	2%	1%
Virginia	City of Fairfax	0%	0%
Virginia	City of Falls Church	0%	0%
	All Other Externals	14%	10%
Subtotal Inbound from Outside DC		100%	70%
			100%
From Upper Northeast - Planning Area D To Within DC - Outbound:		Percent Within Each Section	Percent of All Outbound
A	Upper Northwest North	5%	4%
B	Upper Northwest West	5%	4%
C	Mid-City	6%	4%
D	Upper Northeast	15%	10%
E	Near Northwest	11%	8%
F	Central Washington	46%	32%
G	Capitol Hill	3%	2%
H	Anacostia Waterfront	4%	3%
I	East Washington	2%	1%
J	Anacostia Upper Southeast	2%	2%
Total Outbound Within DC		100%	69%
From Upper Northeast Planning Area D To Outside DC (RACs and other):		Percent Within Each Section	
RAC Number	Regional Activity Center Name		
51	Alexandria	2%	1%
52	Balt-Washington	1%	0%
53	Beltway East	6%	2%
54	Bethesda	0%	0%
55	Dulles	1%	0%
56	I-270 Corridor	2%	0%
57	I-395 & I-95 Corridor	0%	0%
58	I-66 Corridor	1%	0%
59	Pentagon	5%	2%
60	Rosslyn	3%	1%
61	Silver Spring	1%	0%
62	Tysons	2%	1%
	All Other Externals	76%	23%
Total Outbound Outside DC		100%	31%
			100%

Near Northwest: Planning Area E		Average Weekday Work Trips				
To Near Northwest Planning Area E From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	1,420	250	1,128	73	2,871
B	Upper Northwest West	3,017	880	2,747	860	7,504
C	Mid-City	1,194	632	2,355	1,614	5,795
D	Upper Northeast	651	284	698	29	1,662
E	Near Northwest	1,194	301	920	6,425	8,840
F	Central Washington	161	29	311	455	956
G	Capitol Hill	595	211	1,005	160	1,971
H	Anacostia Waterfront	325	102	591	59	1,077
I	East Washington	396	215	599	15	1,225
J	Anacostia Upper Southeast	522	185	908	83	1,698
Subtotal Inbound to Area From Within DC		9,475	3,089	11,262	9,773	33,599

To Near Northwest - Planning Area E From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	428	87	69	-	584
Maryland	Frederick	64	11	26	-	101
Maryland	Howard	257	58	44	-	359
Maryland	Montgomery	4,138	924	1,290	59	6,411
Maryland	Prince George's	2,558	759	1,033	50	4,400
Virginia	Arlington	4,213	1,120	3,698	466	9,497
Virginia	Fairfax	9,838	2,946	3,189	141	16,114
Virginia	Loudoun	793	135	59	-	987
Virginia	Prince William	1,114	742	383	26	2,265
Virginia	City of Alexandria	2,546	667	1,091	105	4,409
Virginia	City of Fairfax	128	80	84	-	292
Virginia	City of Falls Church	99	12	79	6	196
	All Other Externals	4,433	1,384	1,307	619	7,743
Subtotal Inbound from Outside DC		30,609	8,925	12,352	1,471	53,357
Total Inbound to Area: DC + Outside		40,084	12,014	23,614	11,244	86,956

From Near Northwest - Planning Area E To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	300	101	150	159	710
B	Upper Northwest West	888	146	542	554	2,130
C	Mid-City	393	46	311	508	1,258
D	Upper Northeast	175	139	230	296	840
E	Near Northwest	1,194	301	920	6,425	8,840
F	Central Washington	2,161	809	5,703	6,770	15,443
G	Capitol Hill	96	14	136	118	364
H	Anacostia Waterfront	96	27	178	62	363
I	East Washington	48	11	30	51	140
J	Anacostia Upper Southeast	120	67	29	88	304
Total Outbound Within DC		5,471	1,661	8,229	15,031	30,392

From Near Northwest Planning Area E To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	139	22	167	39	367
52	Balt-Washington	16	-	-	-	16
53	Beltway East	151	40	78	22	291
54	Bethesda	22	-	41	7	70
55	Dulles	210	25	27	22	284
56	I-270 Corridor	81	52	48	9	190
57	I-395 & I-95 Corridor	70	8	6	-	84
58	I-66 Corridor	119	7	53	29	208
59	Pentagon	106	16	223	-	345
60	Rosslyn	119	40	196	-	355
61	Silver Spring	24	-	55	-	79
62	Tysons	282	28	59	30	399
	All Other Externals	2,940	562	1,705	654	5,861
Total Outbound Outside DC		4,279	800	2,658	812	8,549
Total Outbound DC + Outside		9,750	2,461	10,887	15,843	38,941
Total Inbound + Outbound		49,834	14,475	34,501	27,087	125,897

Near Northwest: Planning Area E		Percent				Total
To Near Northwest Planning Area E From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	
A	Upper Northwest North	49%	9%	39%	3%	100%
B	Upper Northwest West	40%	12%	37%	11%	100%
C	Mid-City	21%	11%	41%	28%	100%
D	Upper Northeast	39%	17%	42%	2%	100%
E	Near Northwest	14%	3%	10%	73%	100%
F	Central Washington	17%	3%	33%	48%	100%
G	Capitol Hill	30%	11%	51%	8%	100%
H	Anacostia Waterfront	30%	9%	55%	5%	100%
I	East Washington	32%	18%	49%	1%	100%
J	Anacostia Upper Southeast	31%	11%	53%	5%	100%
Subtotal Inbound to Area From Within DC		28%	9%	34%	29%	100%

To Near Northwest - Planning Area E From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	73%	15%	12%	0%	100%
Maryland	Frederick	63%	11%	26%	0%	100%
Maryland	Howard	72%	16%	12%	0%	100%
Maryland	Montgomery	65%	14%	20%	1%	100%
Maryland	Prince George's	58%	17%	23%	1%	100%
Virginia	Arlington	44%	12%	39%	5%	100%
Virginia	Fairfax	61%	18%	20%	1%	100%
Virginia	Loudoun	80%	14%	6%	0%	100%
Virginia	Prince William	49%	33%	17%	1%	100%
Virginia	City of Alexandria	58%	15%	25%	2%	100%
Virginia	City of Fairfax	44%	27%	29%	0%	100%
Virginia	City of Falls Church	51%	6%	40%	3%	100%
	All Other Externals	57%	18%	17%	8%	100%
Subtotal Inbound from Outside DC		57%	17%	23%	3%	100%
Total Inbound to Area: DC + Outside		46%	14%	27%	13%	

From Near Northwest - Planning Area E To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	42%	14%	21%	22%	100%
B	Upper Northwest West	42%	7%	25%	26%	100%
C	Mid-City	31%	4%	25%	40%	100%
D	Upper Northeast	21%	17%	27%	35%	100%
E	Near Northwest	14%	3%	10%	73%	100%
F	Central Washington	14%	5%	37%	44%	100%
G	Capitol Hill	26%	4%	37%	32%	100%
H	Anacostia Waterfront	26%	7%	49%	17%	100%
I	East Washington	34%	8%	21%	36%	100%
J	Anacostia Upper Southeast	39%	22%	10%	29%	100%
Total Outbound Within DC		18%	5%	27%	49%	100%

From Near Northwest Planning Area E To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	38%	6%	46%	11%	100%
52	Balt-Washington	100%	0%	0%	0%	100%
53	Beltway East	52%	14%	27%	8%	100%
54	Bethesda	31%	0%	59%	10%	100%
55	Dulles	74%	9%	10%	8%	100%
56	I-270 Corridor	43%	27%	25%	5%	100%
57	I-395 & I-95 Corridor	83%	10%	7%	0%	100%
58	I-66 Corridor	57%	3%	25%	14%	100%
59	Pentagon	31%	5%	65%	0%	100%
60	Rosslyn	34%	11%	55%	0%	100%
61	Silver Spring	30%	0%	70%	0%	100%
62	Tysons	71%	7%	15%	8%	100%
	All Other Externals	50%	10%	29%	11%	100%
Total Outbound Outside DC		50%	9%	31%	9%	100%
Total Outbound DC + Outside		25%	6%	28%	41%	
Total Inbound + Outbound		40%	11%	27%	22%	

Near Northwest: Planning Area E		Percent Within Each Section	Percent of All Inbound
To Near Northwest Planning Area E From Within DC: Inbound From:			
A	Upper Northwest North	9%	3%
B	Upper Northwest West	22%	9%
C	Mid-City	17%	7%
D	Upper Northeast	5%	2%
E	Near Northwest	26%	10%
F	Central Washington	3%	1%
G	Capitol Hill	6%	2%
H	Anacostia Waterfront	3%	1%
I	East Washington	4%	1%
J	Anacostia Upper Southeast	5%	2%
Subtotal Inbound to Area From Within DC		100%	39%
To Near Northwest - Planning Area E From Outside DC- Inbound		Percent Within Each Section	
State	Jurisdiction		
Maryland	Anne Arundel	1%	1%
Maryland	Frederick	0%	0%
Maryland	Howard	1%	0%
Maryland	Montgomery	12%	7%
Maryland	Prince George's	8%	5%
Virginia	Arlington	18%	11%
Virginia	Fairfax	30%	19%
Virginia	Loudoun	2%	1%
Virginia	Prince William	4%	3%
Virginia	City of Alexandria	8%	5%
Virginia	City of Fairfax	1%	0%
Virginia	City of Falls Church	0%	0%
	All Other Externals	15%	9%
Subtotal Inbound from Outside DC		100%	61%
			100%
From Near Northwest - Planning Area E To Within DC - Outbound:		Percent Within Each Section	Percent of All Outbound
A	Upper Northwest North	2%	2%
B	Upper Northwest West	7%	5%
C	Mid-City	4%	3%
D	Upper Northeast	3%	2%
E	Near Northwest	29%	23%
F	Central Washington	51%	40%
G	Capitol Hill	1%	1%
H	Anacostia Waterfront	1%	1%
I	East Washington	0%	0%
J	Anacostia Upper Southeast	1%	1%
Total Outbound Within DC		100%	78%
From Near Northwest Planning Area E To Outside DC (RACs and other):		Percent Within Each Section	
RAC Number	Regional Activity Center Name		
51	Alexandria	4%	1%
52	Balt-Washington	0%	0%
53	Beltway East	3%	1%
54	Bethesda	1%	0%
55	Dulles	3%	1%
56	I-270 Corridor	2%	0%
57	I-395 & I-95 Corridor	1%	0%
58	I-66 Corridor	2%	1%
59	Pentagon	4%	1%
60	Rosslyn	4%	1%
61	Silver Spring	1%	0%
62	Tysons	5%	1%
	All Other Externals	69%	15%
Total Outbound Outside DC		100%	22%
			100%

Central Washington: Planning Area F		Average Weekday Work Trips				
To Central Washington Planning Area F From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	3,326	1,258	3,734	291	8,609
B	Upper Northwest West	6,034	1,986	9,624	808	18,452
C	Mid-City	2,609	1,214	7,714	1,885	13,422
D	Upper Northeast	2,582	909	2,968	202	6,661
E	Near Northwest	2,161	809	5,703	6,770	15,443
F	Central Washington	476	123	928	1,768	3,295
G	Capitol Hill	2,314	802	3,607	1,900	8,623
H	Anacostia Waterfront	997	420	2,562	585	4,564
I	East Washington	1,635	714	2,489	67	4,905
J	Anacostia Upper Southeast	2,600	1,173	3,189	90	7,052
Subtotal Inbound to Area From Within DC		24,734	9,408	42,518	14,366	91,026

To Central Washington - Planning Area F From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	5,823	2,107	2,593	30	10,553
Maryland	Frederick	928	576	534	-	2,038
Maryland	Howard	2,813	797	1,905	24	5,539
Maryland	Montgomery	23,637	7,521	28,505	511	60,174
Maryland	Prince George's	35,102	14,948	22,325	716	73,091
Virginia	Arlington	8,693	3,496	13,774	705	26,667
Virginia	Fairfax	23,990	13,979	17,298	388	55,655
Virginia	Loudoun	2,254	955	589	32	3,830
Virginia	Prince William	3,628	4,181	1,935	135	9,879
Virginia	City of Alexandria	6,821	2,292	5,332	269	14,714
Virginia	City of Fairfax	373	300	323	19	1,015
Virginia	City of Falls Church	394	258	574	27	1,253
	All Other Externals	17,618	9,608	9,616	1,651	38,493
Subtotal Inbound from Outside DC		132,073	61,017	105,304	4,507	302,901
Total Inbound to Area: DC + Outside		156,807	70,425	147,822	18,873	393,927

From Central Washington - Planning Area F To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	82	31	54	27	194
B	Upper Northwest West	40	42	147	18	247
C	Mid-City	70	22	23	6	121
D	Upper Northeast	53	13	28	24	118
E	Near Northwest	161	29	311	455	956
F	Central Washington	476	123	928	1,768	3,295
G	Capitol Hill	39	9	42	84	174
H	Anacostia Waterfront	68	4	40	26	138
I	East Washington	0	0	6	0	6
J	Anacostia Upper Southeast	39	10	7	27	83
Total Outbound Within DC		1,028	283	1,586	2,435	5,332

From Central Washington Planning Area F To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	33	-	8	8	49
52	Balt-Washington	-	-	9	-	9
53	Beltway East	13	6	10	5	34
54	Bethesda	-	-	10	-	10
55	Dulles	24	-	-	16	40
56	I-270 Corridor	16	-	9	-	25
57	I-395 & I-95 Corridor	16	-	-	-	16
58	I-66 Corridor	26	-	21	-	47
59	Pentagon	10	12	58	-	80
60	Rosslyn	22	-	56	9	87
61	Silver Spring	-	-	23	-	23
62	Tysons	28	-	23	-	51
	All Other Externals	540	133	338	204	1,215
Total Outbound Outside DC		728	151	565	242	1,686
Total Outbound DC + Outside		1,756	434	2,151	2,677	7,018
Total Inbound + Outbound		158,563	70,859	149,973	21,550	400,945

Central Washington: Planning Area F		Percent				Total
To Central Washington Planning Area F From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	
A	Upper Northwest North	39%	15%	43%	3%	100%
B	Upper Northwest West	33%	11%	52%	4%	100%
C	Mid-City	19%	9%	57%	14%	100%
D	Upper Northeast	39%	14%	45%	3%	100%
E	Near Northwest	14%	5%	37%	44%	100%
F	Central Washington	14%	4%	28%	54%	100%
G	Capitol Hill	27%	9%	42%	22%	100%
H	Anacostia Waterfront	22%	9%	56%	13%	100%
I	East Washington	33%	15%	51%	1%	100%
J	Anacostia Upper Southeast	37%	17%	45%	1%	100%
Subtotal Inbound to Area From Within DC		27%	10%	47%	16%	100%

To Central Washington - Planning Area F From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	55%	20%	25%	0%	100%
Maryland	Frederick	46%	28%	26%	0%	100%
Maryland	Howard	51%	14%	34%	0%	100%
Maryland	Montgomery	39%	12%	47%	1%	100%
Maryland	Prince George's	48%	20%	31%	1%	100%
Virginia	Arlington	33%	13%	52%	3%	100%
Virginia	Fairfax	43%	25%	31%	1%	100%
Virginia	Loudoun	59%	25%	15%	1%	100%
Virginia	Prince William	37%	42%	20%	1%	100%
Virginia	City of Alexandria	46%	16%	36%	2%	100%
Virginia	City of Fairfax	37%	30%	32%	2%	100%
Virginia	City of Falls Church	31%	21%	46%	2%	100%
	All Other Externals	46%	25%	25%	4%	100%
Subtotal Inbound from Outside DC		44%	20%	35%	1%	100%
Total Inbound to Area: DC + Outside		40%	18%	38%	5%	

From Central Washington - Planning Area F To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	42%	16%	28%	14%	100%
B	Upper Northwest West	16%	17%	60%	7%	100%
C	Mid-City	58%	18%	19%	5%	100%
D	Upper Northeast	45%	11%	24%	20%	100%
E	Near Northwest	17%	3%	33%	48%	100%
F	Central Washington	14%	4%	28%	54%	100%
G	Capitol Hill	22%	5%	24%	48%	100%
H	Anacostia Waterfront	49%	3%	29%	19%	100%
I	East Washington	0%	0%	100%	0%	100%
J	Anacostia Upper Southeast	47%	12%	8%	33%	100%
Total Outbound Within DC		19%	5%	30%	46%	100%

From Central Washington Planning Area F To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	67%	0%	16%	16%	100%
52	Balt-Washington	0%	0%	100%	0%	100%
53	Beltway East	38%	18%	29%	15%	100%
54	Bethesda	0%	0%	100%	0%	100%
55	Dulles	60%	0%	0%	40%	100%
56	I-270 Corridor	64%	0%	36%	0%	100%
57	I-395 & I-95 Corridor	100%	0%	0%	0%	100%
58	I-66 Corridor	55%	0%	45%	0%	100%
59	Pentagon	12%	15%	73%	0%	100%
60	Rosslyn	25%	0%	64%	10%	100%
61	Silver Spring	0%	0%	100%	0%	100%
62	Tysons	55%	0%	45%	0%	100%
	All Other Externals	44%	11%	28%	17%	100%
Total Outbound Outside DC		43%	9%	34%	14%	100%
Total Outbound DC + Outside		25%	6%	31%	38%	
Total Inbound + Outbound		40%	18%	37%	5%	

Central Washington: Planning Area F			Percent of All Inbound
To Central Washington Planning Area F From Within DC: Inbound From:		Percent Within Each Section	
A	Upper Northwest North	9%	2%
B	Upper Northwest West	20%	5%
C	Mid-City	15%	3%
D	Upper Northeast	7%	2%
E	Near Northwest	17%	4%
F	Central Washington	4%	1%
G	Capitol Hill	9%	2%
H	Anacostia Waterfront	5%	1%
I	East Washington	5%	1%
J	Anacostia Upper Southeast	8%	2%
Subtotal Inbound to Area From Within DC		100%	23%
To Central Washington - Planning Area F From Outside DC- Inbound		Percent Within Each Section	
State	Jurisdiction		
Maryland	Anne Arundel	3%	3%
Maryland	Frederick	1%	1%
Maryland	Howard	2%	1%
Maryland	Montgomery	20%	15%
Maryland	Prince George's	24%	19%
Virginia	Arlington	9%	7%
Virginia	Fairfax	18%	14%
Virginia	Loudoun	1%	1%
Virginia	Prince William	3%	3%
Virginia	City of Alexandria	5%	4%
Virginia	City of Fairfax	0%	0%
Virginia	City of Falls Church	0%	0%
	All Other Externals	13%	10%
Subtotal Inbound from Outside DC		100%	77%
			100%
From Central Washington - Planning Area F To Within DC - Outbound:		Percent Within Each Section	Percent of All Outbound
A	Upper Northwest North	4%	3%
B	Upper Northwest West	5%	4%
C	Mid-City	2%	2%
D	Upper Northeast	2%	2%
E	Near Northwest	18%	14%
F	Central Washington	62%	47%
G	Capitol Hill	3%	2%
H	Anacostia Waterfront	3%	2%
I	East Washington	0%	0%
J	Anacostia Upper Southeast	2%	1%
Total Outbound Within DC		100%	76%
From Central Washington Planning Area F To Outside DC (RACs and other):		Percent Within Each Section	
RAC Number	Regional Activity Center Name		
51	Alexandria	3%	1%
52	Balt-Washington	1%	0%
53	Beltway East	2%	0%
54	Bethesda	1%	0%
55	Dulles	2%	1%
56	I-270 Corridor	1%	0%
57	I-395 & I-95 Corridor	1%	0%
58	I-66 Corridor	3%	1%
59	Pentagon	5%	1%
60	Rosslyn	5%	1%
61	Silver Spring	1%	0%
62	Tysons	3%	1%
	All Other Externals	72%	17%
Total Outbound Outside DC		100%	24%
			100%

Capitol Hill: Planning Area G		Average Weekday Work Trips				
To Capitol Hill Planning Area G From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	182	57	126	15	380
B	Upper Northwest West	127	47	129	11	314
C	Mid-City	213	58	248	15	534
D	Upper Northeast	209	101	125	24	459
E	Near Northwest	96	14	136	118	364
F	Central Washington	39	9	42	84	174
G	Capitol Hill	403	257	160	452	1,272
H	Anacostia Waterfront	81	19	112	16	228
I	East Washington	174	26	118	0	318
J	Anacostia Upper Southeast	203	79	277	6	565
Subtotal Inbound to Area From Within DC		1,727	667	1,473	741	4,608

To Capitol Hill - Planning Area G From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	132	59	129	-	320
Maryland	Frederick	24	-	-	-	24
Maryland	Howard	111	22	39	-	172
Maryland	Montgomery	983	161	396	21	1,561
Maryland	Prince George's	2,563	673	591	9	3,836
Virginia	Arlington	263	64	186	11	524
Virginia	Fairfax	648	319	339	17	1,323
Virginia	Loudoun	36	33	21	-	90
Virginia	Prince William	105	103	31	17	256
Virginia	City of Alexandria	237	91	69	-	397
Virginia	City of Fairfax	5	5	7	-	17
Virginia	City of Falls Church	8	-	6	-	14
	All Other Externals	1,005	498	489	50	2,042
Subtotal Inbound from Outside DC		6,120	2,028	2,303	125	10,576
Total Inbound to Area: DC + Outside		7,847	2,695	3,776	866	15,184

From Capitol Hill - Planning Area G To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	237	49	106	0	392
B	Upper Northwest West	288	37	172	12	509
C	Mid-City	197	118	134	26	475
D	Upper Northeast	396	118	127	70	711
E	Near Northwest	595	211	1,005	160	1,971
F	Central Washington	2,314	802	3,607	1,900	8,623
G	Capitol Hill	403	257	160	452	1,272
H	Anacostia Waterfront	274	61	120	78	533
I	East Washington	90	24	54	0	168
J	Anacostia Upper Southeast	189	49	32	31	301
Total Outbound Within DC		4,983	1,726	5,517	2,729	14,955

From Capitol Hill Planning Area G To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	185	39	48	9	281
52	Balt-Washington	8	-	-	13	21
53	Beltway East	174	67	93	-	334
54	Bethesda	6	10	10	-	26
55	Dulles	139	13	-	11	163
56	I-270 Corridor	32	-	26	-	58
57	I-395 & I-95 Corridor	46	5	-	-	51
58	I-66 Corridor	69	31	9	-	109
59	Pentagon	148	42	166	-	356
60	Rosslyn	131	12	92	-	235
61	Silver Spring	5	-	21	-	26
62	Tysons	291	10	12	10	323
	All Other Externals	2,621	420	705	156	3,902
Total Outbound Outside DC		3,855	649	1,182	199	5,885
Total Outbound DC + Outside		8,838	2,375	6,699	2,928	20,840
Total Inbound + Outbound		16,685	5,070	10,475	3,794	36,024

Capitol Hill: Planning Area G		Percent				Total
To Capitol Hill Planning Area G From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	
A	Upper Northwest North	48%	15%	33%	4%	100%
B	Upper Northwest West	40%	15%	41%	4%	100%
C	Mid-City	40%	11%	46%	3%	100%
D	Upper Northeast	46%	22%	27%	5%	100%
E	Near Northwest	26%	4%	37%	32%	100%
F	Central Washington	22%	5%	24%	48%	100%
G	Capitol Hill	32%	20%	13%	36%	100%
H	Anacostia Waterfront	36%	8%	49%	7%	100%
I	East Washington	55%	8%	37%	0%	100%
J	Anacostia Upper Southeast	36%	14%	49%	1%	100%
Subtotal Inbound to Area From Within DC		37%	14%	32%	16%	100%

To Capitol Hill - Planning Area G From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	41%	18%	40%	0%	100%
Maryland	Frederick	100%	0%	0%	0%	100%
Maryland	Howard	65%	13%	23%	0%	100%
Maryland	Montgomery	63%	10%	25%	1%	100%
Maryland	Prince George's	67%	18%	15%	0%	100%
Virginia	Arlington	50%	12%	35%	2%	100%
Virginia	Fairfax	49%	24%	26%	1%	100%
Virginia	Loudoun	40%	37%	23%	0%	100%
Virginia	Prince William	41%	40%	12%	7%	100%
Virginia	City of Alexandria	60%	23%	17%	0%	100%
Virginia	City of Fairfax	29%	29%	41%	0%	100%
Virginia	City of Falls Church	57%	0%	43%	0%	100%
	All Other Externals	49%	24%	24%	2%	100%
Subtotal Inbound from Outside DC		58%	19%	22%	1%	100%
Total Inbound to Area: DC + Outside		52%	18%	25%	6%	

From Capitol Hill - Planning Area G To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	60%	13%	27%	0%	100%
B	Upper Northwest West	57%	7%	34%	2%	100%
C	Mid-City	41%	25%	28%	5%	100%
D	Upper Northeast	56%	17%	18%	10%	100%
E	Near Northwest	30%	11%	51%	8%	100%
F	Central Washington	27%	9%	42%	22%	100%
G	Capitol Hill	32%	20%	13%	36%	100%
H	Anacostia Waterfront	51%	11%	23%	15%	100%
I	East Washington	54%	14%	32%	0%	100%
J	Anacostia Upper Southeast	63%	16%	11%	10%	100%
Total Outbound Within DC		33%	12%	37%	18%	100%

From Capitol Hill Planning Area G To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	66%	14%	17%	3%	100%
52	Balt-Washington	38%	0%	0%	62%	100%
53	Beltway East	52%	20%	28%	0%	100%
54	Bethesda	23%	38%	38%	0%	100%
55	Dulles	85%	8%	0%	7%	100%
56	I-270 Corridor	55%	0%	45%	0%	100%
57	I-395 & I-95 Corridor	90%	10%	0%	0%	100%
58	I-66 Corridor	63%	28%	8%	0%	100%
59	Pentagon	42%	12%	47%	0%	100%
60	Rosslyn	56%	5%	39%	0%	100%
61	Silver Spring	19%	0%	81%	0%	100%
62	Tysons	90%	3%	4%	3%	100%
	All Other Externals	67%	11%	18%	4%	100%
Total Outbound Outside DC		66%	11%	20%	3%	100%
Total Outbound DC + Outside		42%	11%	32%	14%	
Total Inbound + Outbound		46%	14%	29%	11%	

Capitol Hill: Planning Area G			Percent of All Inbound
To Capitol Hill Planning Area G From Within DC: Inbound From:		Percent Within Each Section	
A	Upper Northwest North	8%	3%
B	Upper Northwest West	7%	2%
C	Mid-City	12%	4%
D	Upper Northeast	10%	3%
E	Near Northwest	8%	2%
F	Central Washington	4%	1%
G	Capitol Hill	28%	8%
H	Anacostia Waterfront	5%	2%
I	East Washington	7%	2%
J	Anacostia Upper Southeast	12%	4%
Subtotal Inbound to Area From Within DC		100%	30%
To Capitol Hill - Planning Area G From Outside DC-Inbound		Percent Within Each Section	
State	Jurisdiction		
Maryland	Anne Arundel	3%	2%
Maryland	Frederick	0%	0%
Maryland	Howard	2%	1%
Maryland	Montgomery	15%	10%
Maryland	Prince George's	36%	25%
Virginia	Arlington	5%	3%
Virginia	Fairfax	13%	9%
Virginia	Loudoun	1%	1%
Virginia	Prince William	2%	2%
Virginia	City of Alexandria	4%	3%
Virginia	City of Fairfax	0%	0%
Virginia	City of Falls Church	0%	0%
	All Other Externals	19%	13%
Subtotal Inbound from Outside DC		100%	70%
			100%
From Capitol Hill - Planning Area G To Within DC - Outbound:		Percent Within Each Section	Percent of All Outbound
A	Upper Northwest North	3%	2%
B	Upper Northwest West	3%	2%
C	Mid-City	3%	2%
D	Upper Northeast	5%	3%
E	Near Northwest	13%	9%
F	Central Washington	58%	41%
G	Capitol Hill	9%	6%
H	Anacostia Waterfront	4%	3%
I	East Washington	1%	1%
J	Anacostia Upper Southeast	2%	1%
Total Outbound Within DC		100%	72%
From Capitol Hill Planning Area G To Outside DC (RACs and other):		Percent Within Each Section	
RAC Number	Regional Activity Center Name		
51	Alexandria	5%	1%
52	Balt-Washington	0%	0%
53	Beltway East	6%	2%
54	Bethesda	0%	0%
55	Dulles	3%	1%
56	I-270 Corridor	1%	0%
57	I-395 & I-95 Corridor	1%	0%
58	I-66 Corridor	2%	1%
59	Pentagon	6%	2%
60	Rosslyn	4%	1%
61	Silver Spring	0%	0%
62	Tysons	5%	2%
	All Other Externals	66%	19%
Total Outbound Outside DC		100%	28%
			100%

Anacostia Waterfront: Planning Area H		Average Weekday Work Trips				
To Anacostia Waterfront Planning Area H From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	339	96	108	45	588
B	Upper Northwest West	167	46	108	10	331
C	Mid-City	289	57	385	56	787
D	Upper Northeast	386	159	72	36	653
E	Near Northwest	96	27	178	62	363
F	Central Washington	68	4	40	26	138
G	Capitol Hill	274	61	120	78	533
H	Anacostia Waterfront	347	43	103	412	905
I	East Washington	356	69	269	24	718
J	Anacostia Upper Southeast	1,136	409	382	293	2,220
Subtotal Inbound to Area From Within DC		3,458	971	1,765	1,042	7,236

To Anacostia Waterfront - Planning Area H From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	927	241	79	-	1,247
Maryland	Frederick	91	27	7	-	125
Maryland	Howard	284	72	42	-	398
Maryland	Montgomery	1,204	266	456	66	1,992
Maryland	Prince George's	4,726	1,407	829	91	7,053
Virginia	Arlington	805	143	262	93	1,303
Virginia	Fairfax	3,750	1,100	543	126	5,519
Virginia	Loudoun	241	36	26	-	303
Virginia	Prince William	781	594	52	15	1,442
Virginia	City of Alexandria	937	153	131	34	1,255
Virginia	City of Fairfax	42	13	-	-	55
Virginia	City of Falls Church	86	-	13	-	99
	All Other Externals	3,077	1,316	384	112	4,889
Subtotal Inbound from Outside DC		16,951	5,368	2,824	537	25,679
Total Inbound to Area: DC + Outside		20,409	6,339	4,589	1,579	32,915

From Anacostia Waterfront - Planning Area H To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	173	54	96	25	348
B	Upper Northwest West	164	25	178	35	402
C	Mid-City	54	52	189	33	328
D	Upper Northeast	218	13	96	42	369
E	Near Northwest	325	102	591	59	1,077
F	Central Washington	997	420	2,562	585	4,564
G	Capitol Hill	81	19	112	16	228
H	Anacostia Waterfront	347	43	103	412	905
I	East Washington	60	32	44	17	153
J	Anacostia Upper Southeast	150	38	103	48	339
Total Outbound Within DC		2,569	798	4,074	1,272	8,713

From Anacostia Waterfront Planning Area H To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	78	4	39	-	121
52	Balt-Washington	9	11	-	-	20
53	Beltway East	137	16	21	7	181
54	Bethesda	10	-	-	-	10
55	Dulles	55	9	15	-	79
56	I-270 Corridor	33	6	28	-	67
57	I-395 & I-95 Corridor	24	-	4	-	28
58	I-66 Corridor	51	7	31	6	95
59	Pentagon	96	32	157	6	291
60	Rosslyn	19	19	34	-	72
61	Silver Spring	9	17	-	-	26
62	Tysons	44	50	18	16	128
	All Other Externals	1,505	212	673	128	2,518
Total Outbound Outside DC		2,070	383	1,020	163	3,636
Total Outbound DC + Outside		4,639	1,181	5,094	1,435	12,349
Total Inbound + Outbound		25,048	7,520	9,683	3,014	45,265

Anacostia Waterfront: Planning Area H		Percent				Total
To Anacostia Waterfront Planning Area H From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	
A	Upper Northwest North	58%	16%	18%	8%	100%
B	Upper Northwest West	50%	14%	33%	3%	100%
C	Mid-City	37%	7%	49%	7%	100%
D	Upper Northeast	59%	24%	11%	6%	100%
E	Near Northwest	26%	7%	49%	17%	100%
F	Central Washington	49%	3%	29%	19%	100%
G	Capitol Hill	51%	11%	23%	15%	100%
H	Anacostia Waterfront	38%	5%	11%	46%	100%
I	East Washington	50%	10%	37%	3%	100%
J	Anacostia Upper Southeast	51%	18%	17%	13%	100%
Subtotal Inbound to Area From Within DC		48%	13%	24%	14%	100%

To Anacostia Waterfront - Planning Area H From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	74%	19%	6%	0%	100%
Maryland	Frederick	73%	22%	6%	0%	100%
Maryland	Howard	71%	18%	11%	0%	100%
Maryland	Montgomery	60%	13%	23%	3%	100%
Maryland	Prince George's	67%	20%	12%	1%	100%
Virginia	Arlington	62%	11%	20%	7%	100%
Virginia	Fairfax	68%	20%	10%	2%	100%
Virginia	Loudoun	80%	12%	9%	0%	100%
Virginia	Prince William	54%	41%	4%	1%	100%
Virginia	City of Alexandria	75%	12%	10%	3%	100%
Virginia	City of Fairfax	76%	24%	0%	0%	100%
Virginia	City of Falls Church	87%	0%	13%	0%	100%
	All Other Externals	63%	27%	8%	2%	100%
Subtotal Inbound from Outside DC		66%	21%	11%	2%	100%
Total Inbound to Area: DC + Outside		62%	19%	14%	5%	

From Anacostia Waterfront - Planning Area H To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	50%	16%	28%	7%	100%
B	Upper Northwest West	41%	6%	44%	9%	100%
C	Mid-City	16%	16%	58%	10%	100%
D	Upper Northeast	59%	4%	26%	11%	100%
E	Near Northwest	30%	9%	55%	5%	100%
F	Central Washington	22%	9%	56%	13%	100%
G	Capitol Hill	36%	8%	49%	7%	100%
H	Anacostia Waterfront	38%	5%	11%	46%	100%
I	East Washington	39%	21%	29%	11%	100%
J	Anacostia Upper Southeast	44%	11%	30%	14%	100%
Total Outbound Within DC		29%	9%	47%	15%	100%

From Anacostia Waterfront Planning Area H To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	64%	3%	32%	0%	100%
52	Balt-Washington	45%	55%	0%	0%	100%
53	Beltway East	76%	9%	12%	4%	100%
54	Bethesda	100%	0%	0%	0%	100%
55	Dulles	70%	11%	19%	0%	100%
56	I-270 Corridor	49%	9%	42%	0%	100%
57	I-395 & I-95 Corridor	86%	0%	14%	0%	100%
58	I-66 Corridor	54%	7%	33%	6%	100%
59	Pentagon	33%	11%	54%	2%	100%
60	Rosslyn	26%	26%	47%	0%	100%
61	Silver Spring	35%	65%	0%	0%	100%
62	Tysons	34%	39%	14%	13%	100%
	All Other Externals	60%	8%	27%	5%	100%
Total Outbound Outside DC		57%	11%	28%	4%	100%
Total Outbound DC + Outside		38%	10%	41%	12%	
Total Inbound + Outbound		55%	17%	21%	7%	

Anacostia Waterfront: Planning Area H		Percent	Percent
To Anacostia Waterfront Planning Area H From		Within Each	of All
Within DC: Inbound From:		Section	Inbound
A	Upper Northwest North	8%	2%
B	Upper Northwest West	5%	1%
C	Mid-City	11%	2%
D	Upper Northeast	9%	2%
E	Near Northwest	5%	1%
F	Central Washington	2%	0%
G	Capitol Hill	7%	2%
H	Anacostia Waterfront	13%	3%
I	East Washington	10%	2%
J	Anacostia Upper Southeast	31%	7%
Subtotal Inbound to Area From Within DC		100%	22%
To Anacostia Waterfront - Planning Area H From		Percent	
Outside DC- Inbound		Within Each	
State	Jurisdiction	Section	
Maryland	Anne Arundel	5%	4%
Maryland	Frederick	0%	0%
Maryland	Howard	2%	1%
Maryland	Montgomery	8%	6%
Maryland	Prince George's	27%	21%
Virginia	Arlington	5%	4%
Virginia	Fairfax	21%	17%
Virginia	Loudoun	1%	1%
Virginia	Prince William	6%	4%
Virginia	City of Alexandria	5%	4%
Virginia	City of Fairfax	0%	0%
Virginia	City of Falls Church	0%	0%
	All Other Externals	19%	15%
Subtotal Inbound from Outside DC		100%	78%
			100%
From Anacostia Waterfront - Planning Area H To		Percent	Percent
Within DC - Outbound:		Within Each	of All
		Section	Outbound
A	Upper Northwest North	4%	3%
B	Upper Northwest West	5%	3%
C	Mid-City	4%	3%
D	Upper Northeast	4%	3%
E	Near Northwest	12%	9%
F	Central Washington	52%	37%
G	Capitol Hill	3%	2%
H	Anacostia Waterfront	10%	7%
I	East Washington	2%	1%
J	Anacostia Upper Southeast	4%	3%
Total Outbound Within DC		100%	71%
From Anacostia Waterfront Planning Area H To		Percent	
Outside DC (RACs and other):		Within Each	
RAC Number	Regional Activity Center Name	Section	
51	Alexandria	3%	1%
52	Balt-Washington	1%	0%
53	Beltway East	5%	1%
54	Bethesda	0%	0%
55	Dulles	2%	1%
56	I-270 Corridor	2%	1%
57	I-395 & I-95 Corridor	1%	0%
58	I-66 Corridor	3%	1%
59	Pentagon	8%	2%
60	Rosslyn	2%	1%
61	Silver Spring	1%	0%
62	Tysons	4%	1%
	All Other Externals	69%	20%
Total Outbound Outside DC		100%	29%
			100%

East Washington: Planning Area I		Average Weekday Work Trips				
To East Washington Planning Area I From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	97	8	28	0	133
B	Upper Northwest West	23	0	14	0	37
C	Mid-City	57	38	11	33	139
D	Upper Northeast	123	42	65	0	230
E	Near Northwest	48	11	30	51	140
F	Central Washington	0	0	6	0	6
G	Capitol Hill	90	24	54	0	168
H	Anacostia Waterfront	60	32	44	17	153
I	East Washington	250	101	61	183	595
J	Anacostia Upper Southeast	116	41	55	26	238
Subtotal Inbound to Area From Within DC		864	297	368	310	1,839

To East Washington - Planning Area I From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	17	22	-	-	39
Maryland	Frederick	-	-	-	-	-
Maryland	Howard	8	-	7	-	15
Maryland	Montgomery	243	29	33	-	305
Maryland	Prince George's	1,114	286	107	48	1,555
Virginia	Arlington	10	4	6	-	20
Virginia	Fairfax	127	64	-	-	191
Virginia	Loudoun	30	-	-	-	30
Virginia	Prince William	28	15	-	-	43
Virginia	City of Alexandria	11	-	11	-	22
Virginia	City of Fairfax	-	-	-	-	-
Virginia	City of Falls Church	-	-	-	-	-
	All Other Externals	259	57	6	3	325
Subtotal Inbound from Outside DC		1,847	477	170	51	2,545
Total Inbound to Area: DC + Outside		2,711	774	538	361	4,384

From East Washington - Planning Area I To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	215	74	70	22	381
B	Upper Northwest West	190	73	93	0	356
C	Mid-City	218	71	156	6	451
D	Upper Northeast	296	109	213	0	618
E	Near Northwest	396	215	599	15	1,225
F	Central Washington	1,635	714	2,489	67	4,905
G	Capitol Hill	174	26	118	0	318
H	Anacostia Waterfront	356	69	269	24	718
I	East Washington	250	101	61	183	595
J	Anacostia Upper Southeast	206	72	97	28	403
Total Outbound Within DC		3,936	1,524	4,165	345	9,970

From East Washington Planning Area I To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	75	21	40	-	136
52	Balt-Washington	38	11	-	-	49
53	Beltway East	112	54	70	-	236
54	Bethesda	-	24	37	-	61
55	Dulles	39	13	7	-	59
56	I-270 Corridor	27	6	16	-	49
57	I-395 & I-95 Corridor	57	-	6	-	63
58	I-66 Corridor	83	20	8	-	111
59	Pentagon	123	39	152	-	314
60	Rosslyn	82	21	98	-	201
61	Silver Spring	24	-	-	-	24
62	Tysons	83	14	9	-	106
	All Other Externals	2,741	867	1,090	110	4,808
Total Outbound Outside DC		3,484	1,090	1,533	110	6,217
Total Outbound DC + Outside		7,420	2,614	5,698	455	16,187
Total Inbound + Outbound		10,131	3,388	6,236	816	20,571

East Washington: Planning Area I		Percent				Total
To East Washington Planning Area I From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	
A	Upper Northwest North	73%	6%	21%	0%	100%
B	Upper Northwest West	62%	0%	38%	0%	100%
C	Mid-City	41%	27%	8%	24%	100%
D	Upper Northeast	53%	18%	28%	0%	100%
E	Near Northwest	34%	8%	21%	36%	100%
F	Central Washington	0%	0%	100%	0%	100%
G	Capitol Hill	54%	14%	32%	0%	100%
H	Anacostia Waterfront	39%	21%	29%	11%	100%
I	East Washington	42%	17%	10%	31%	100%
J	Anacostia Upper Southeast	49%	17%	23%	11%	100%
Subtotal Inbound to Area From Within DC		47%	16%	20%	17%	100%

To East Washington - Planning Area I From Outside DC - Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	44%	56%	0%	0%	100%
Maryland	Frederick	n/a	n/a	n/a	n/a	n/a
Maryland	Howard	53%	0%	47%	0%	100%
Maryland	Montgomery	80%	10%	11%	0%	100%
Maryland	Prince George's	72%	18%	7%	3%	100%
Virginia	Arlington	50%	20%	30%	0%	100%
Virginia	Fairfax	66%	34%	0%	0%	100%
Virginia	Loudoun	100%	0%	0%	0%	100%
Virginia	Prince William	65%	35%	0%	0%	100%
Virginia	City of Alexandria	50%	0%	50%	0%	100%
Virginia	City of Fairfax	n/a	n/a	n/a	n/a	n/a
Virginia	City of Falls Church	n/a	n/a	n/a	n/a	n/a
	All Other Externals	80%	18%	2%	1%	100%
Subtotal Inbound from Outside DC		73%	19%	7%	2%	100%
Total Inbound to Area: DC + Outside		62%	18%	12%	8%	

From East Washington - Planning Area I To Within DC - Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	56%	19%	18%	6%	100%
B	Upper Northwest West	53%	21%	26%	0%	100%
C	Mid-City	48%	16%	35%	1%	100%
D	Upper Northeast	48%	18%	34%	0%	100%
E	Near Northwest	32%	18%	49%	1%	100%
F	Central Washington	33%	15%	51%	1%	100%
G	Capitol Hill	55%	8%	37%	0%	100%
H	Anacostia Waterfront	50%	10%	37%	3%	100%
I	East Washington	42%	17%	10%	31%	100%
J	Anacostia Upper Southeast	51%	18%	24%	7%	100%
Total Outbound Within DC		39%	15%	42%	3%	100%

From East Washington Planning Area I To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	55%	15%	29%	0%	100%
52	Balt-Washington	78%	22%	0%	0%	100%
53	Beltway East	47%	23%	30%	0%	100%
54	Bethesda	0%	39%	61%	0%	100%
55	Dulles	66%	22%	12%	0%	100%
56	I-270 Corridor	55%	12%	33%	0%	100%
57	I-395 & I-95 Corridor	90%	0%	10%	0%	100%
58	I-66 Corridor	75%	18%	7%	0%	100%
59	Pentagon	39%	12%	48%	0%	100%
60	Rosslyn	41%	10%	49%	0%	100%
61	Silver Spring	100%	0%	0%	0%	100%
62	Tysons	78%	13%	8%	0%	100%
	All Other Externals	57%	18%	23%	2%	100%
Total Outbound Outside DC		56%	18%	25%	2%	100%
Total Outbound DC + Outside		46%	16%	35%	3%	
Total Inbound + Outbound		49%	16%	30%	4%	

East Washington: Planning Area I			Percent of All Inbound
To East Washington Planning Area I From Within DC: Inbound From:		Percent Within Each Section	
A	Upper Northwest North	7%	3%
B	Upper Northwest West	2%	1%
C	Mid-City	8%	3%
D	Upper Northeast	13%	5%
E	Near Northwest	8%	3%
F	Central Washington	0%	0%
G	Capitol Hill	9%	4%
H	Anacostia Waterfront	8%	3%
I	East Washington	32%	14%
J	Anacostia Upper Southeast	13%	5%
Subtotal Inbound to Area From Within DC		100%	42%
To East Washington - Planning Area I From Outside DC- Inbound		Percent Within Each Section	
State	Jurisdiction		
Maryland	Anne Arundel	2%	1%
Maryland	Frederick	0%	0%
Maryland	Howard	1%	0%
Maryland	Montgomery	12%	7%
Maryland	Prince George's	61%	35%
Virginia	Arlington	1%	0%
Virginia	Fairfax	8%	4%
Virginia	Loudoun	1%	1%
Virginia	Prince William	2%	1%
Virginia	City of Alexandria	1%	1%
Virginia	City of Fairfax	0%	0%
Virginia	City of Falls Church	0%	0%
	All Other Externals	13%	7%
Subtotal Inbound from Outside DC		100%	58%
			100%
From East Washington - Planning Area I To Within DC - Outbound:		Percent Within Each Section	Percent of All Outbound
A	Upper Northwest North	4%	2%
B	Upper Northwest West	4%	2%
C	Mid-City	5%	3%
D	Upper Northeast	6%	4%
E	Near Northwest	12%	8%
F	Central Washington	49%	30%
G	Capitol Hill	3%	2%
H	Anacostia Waterfront	7%	4%
I	East Washington	6%	4%
J	Anacostia Upper Southeast	4%	2%
Total Outbound Within DC		100%	62%
From East Washington Planning Area I To Outside DC (RACs and other):		Percent Within Each Section	
RAC Number	Regional Activity Center Name		
51	Alexandria	2%	1%
52	Balt-Washington	1%	0%
53	Beltway East	4%	1%
54	Bethesda	1%	0%
55	Dulles	1%	0%
56	I-270 Corridor	1%	0%
57	I-395 & I-95 Corridor	1%	0%
58	I-66 Corridor	2%	1%
59	Pentagon	5%	2%
60	Rosslyn	3%	1%
61	Silver Spring	0%	0%
62	Tysons	2%	1%
	All Other Externals	77%	30%
Total Outbound Outside DC		100%	38%
			100%

Anacostia Upper Southeast: Planning Area J		Average Weekday Work Trips				
To Anacostia Upper Southeast Planning Area J		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
From Within DC: Inbound From:						
A	Upper Northwest North	248	9	88	0	345
B	Upper Northwest West	141	14	19	12	186
C	Mid-City	109	73	103	31	316
D	Upper Northeast	188	50	103	7	348
E	Near Northwest	120	67	29	88	304
F	Central Washington	39	10	7	27	83
G	Capitol Hill	189	49	32	31	301
H	Anacostia Waterfront	150	38	103	48	339
I	East Washington	206	72	97	28	403
J	Anacostia Upper Southeast	651	290	365	596	1,902
Subtotal Inbound to Area From Within DC		2,041	672	946	868	4,527

To Anacostia Upper Southeast- Planning Area J From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	242	59	-	-	301
Maryland	Frederick	28	-	-	-	28
Maryland	Howard	131	12	-	-	143
Maryland	Montgomery	830	151	38	22	1,041
Maryland	Prince George's	3,900	805	159	70	4,934
Virginia	Arlington	205	35	17	33	290
Virginia	Fairfax	1,153	207	5	-	1,365
Virginia	Loudoun	53	-	8	-	61
Virginia	Prince William	211	41	6	-	258
Virginia	City of Alexandria	218	30	-	-	248
Virginia	City of Fairfax	8	-	-	-	8
Virginia	City of Falls Church	-	-	-	-	-
	All Other Externals	1,399	256	-	16	1,671
Subtotal Inbound from Outside DC		8,378	1,596	233	141	10,348
Total Inbound to Area: DC + Outside		10,419	2,268	1,179	1,009	14,875

From Anacostia Upper Southeast-Planning Area J To Within DC-Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	274	107	187	26	594
B	Upper Northwest West	303	112	319	0	734
C	Mid-City	261	65	258	7	591
D	Upper Northeast	448	158	308	17	931
E	Near Northwest	522	185	908	83	1,698
F	Central Washington	2,600	1,173	3,189	90	7,052
G	Capitol Hill	203	79	277	6	565
H	Anacostia Waterfront	1,136	409	382	293	2,220
I	East Washington	116	41	55	26	238
J	Anacostia Upper Southeast	651	290	365	596	1,902
Total Outbound Within DC		6,514	2,619	6,248	1,144	16,525

From Anacostia Upper Southeast Planning Area J To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	82	17	49	-	148
52	Balt-Washington	9	6	-	-	15
53	Beltway East	83	34	20	-	137
54	Bethesda	37	6	23	-	66
55	Dulles	31	-	24	10	65
56	I-270 Corridor	10	8	8	-	26
57	I-395 & I-95 Corridor	37	7	6	7	57
58	I-66 Corridor	67	38	22	-	127
59	Pentagon	312	112	175	9	608
60	Rosslyn	66	24	37	-	127
61	Silver Spring	31	-	-	-	31
62	Tysons	60	6	14	-	80
	All Other Externals	2,444	753	1,047	170	4,414
Total Outbound Outside DC		3,270	1,011	1,425	196	5,902
Total Outbound DC + Outside		9,784	3,630	7,673	1,340	22,427
Total Inbound + Outbound		20,202	5,898	8,852	2,349	37,301

Anacostia Upper Southeast: Planning Area J		Percent				Total
To Anacostia Upper Southeast Planning Area J From Within DC: Inbound From:		Drive Alone	Carpool/ Vanpool	Transit	Others	
A	Upper Northwest North	72%	3%	26%	0%	100%
B	Upper Northwest West	76%	8%	10%	6%	100%
C	Mid-City	34%	23%	33%	10%	100%
D	Upper Northeast	54%	14%	30%	2%	100%
E	Near Northwest	39%	22%	10%	29%	100%
F	Central Washington	47%	12%	8%	33%	100%
G	Capitol Hill	63%	16%	11%	10%	100%
H	Anacostia Waterfront	44%	11%	30%	14%	100%
I	East Washington	51%	18%	24%	7%	100%
J	Anacostia Upper Southeast	34%	15%	19%	31%	100%
Subtotal Inbound to Area From Within DC		45%	15%	21%	19%	100%

To Anacostia Upper Southeast- Planning Area J From Outside DC- Inbound		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
State	Jurisdiction					
Maryland	Anne Arundel	80%	20%	0%	0%	100%
Maryland	Frederick	100%	0%	0%	0%	100%
Maryland	Howard	92%	8%	0%	0%	100%
Maryland	Montgomery	80%	15%	4%	2%	100%
Maryland	Prince George's	79%	16%	3%	1%	100%
Virginia	Arlington	71%	12%	6%	11%	100%
Virginia	Fairfax	84%	15%	0%	0%	100%
Virginia	Loudoun	87%	0%	13%	0%	100%
Virginia	Prince William	82%	16%	2%	0%	100%
Virginia	City of Alexandria	88%	12%	0%	0%	100%
Virginia	City of Fairfax	100%	0%	0%	0%	100%
Virginia	City of Falls Church	n/a	n/a	n/a	n/a	n/a
	All Other Externals	84%	15%	0%	1%	100%
Subtotal Inbound from Outside DC		81%	15%	2%	1%	100%
Total Inbound to Area: DC + Outside		70%	15%	8%	7%	

From Anacostia Upper Southeast-Planning Area J To Within DC-Outbound:		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
A	Upper Northwest North	46%	18%	31%	4%	100%
B	Upper Northwest West	41%	15%	43%	0%	100%
C	Mid-City	44%	11%	44%	1%	100%
D	Upper Northeast	48%	17%	33%	2%	100%
E	Near Northwest	31%	11%	53%	5%	100%
F	Central Washington	37%	17%	45%	1%	100%
G	Capitol Hill	36%	14%	49%	1%	100%
H	Anacostia Waterfront	51%	18%	17%	13%	100%
I	East Washington	49%	17%	23%	11%	100%
J	Anacostia Upper Southeast	34%	15%	19%	31%	100%
Total Outbound Within DC		39%	16%	38%	7%	100%

From Anacostia Upper Southeast Planning Area J To Outside DC (RACs and other):		Drive Alone	Carpool/ Vanpool	Transit	Others	Total
RAC Number	Regional Activity Center Name					
51	Alexandria	55%	11%	33%	0%	100%
52	Balt-Washington	60%	40%	0%	0%	100%
53	Beltway East	61%	25%	15%	0%	100%
54	Bethesda	56%	9%	35%	0%	100%
55	Dulles	48%	0%	37%	15%	100%
56	I-270 Corridor	38%	31%	31%	0%	100%
57	I-395 & I-95 Corridor	65%	12%	11%	12%	100%
58	I-66 Corridor	53%	30%	17%	0%	100%
59	Pentagon	51%	18%	29%	1%	100%
60	Rosslyn	52%	19%	29%	0%	100%
61	Silver Spring	100%	0%	0%	0%	100%
62	Tysons	75%	8%	18%	0%	100%
	All Other Externals	55%	17%	24%	4%	100%
Total Outbound Outside DC		55%	17%	24%	3%	100%
Total Outbound DC + Outside		44%	16%	34%	6%	
Total Inbound + Outbound		54%	16%	24%	6%	

Anacostia Upper Southeast: Planning Area J		Percent Within Each Section	Percent of All Inbound
To Anacostia Upper Southeast Planning Area J From Within DC: Inbound From:			
A	Upper Northwest North	8%	2%
B	Upper Northwest West	4%	1%
C	Mid-City	7%	2%
D	Upper Northeast	8%	2%
E	Near Northwest	7%	2%
F	Central Washington	2%	1%
G	Capitol Hill	7%	2%
H	Anacostia Waterfront	7%	2%
I	East Washington	9%	3%
J	Anacostia Upper Southeast	42%	13%
Subtotal Inbound to Area From Within DC		100%	30%
To Anacostia Upper Southeast- Planning Area J From Outside DC- Inbound		Percent Within Each Section	
State	Jurisdiction		
Maryland	Anne Arundel	3%	2%
Maryland	Frederick	0%	0%
Maryland	Howard	1%	1%
Maryland	Montgomery	10%	7%
Maryland	Prince George's	48%	33%
Virginia	Arlington	3%	2%
Virginia	Fairfax	13%	9%
Virginia	Loudoun	1%	0%
Virginia	Prince William	2%	2%
Virginia	City of Alexandria	2%	2%
Virginia	City of Fairfax	0%	0%
Virginia	City of Falls Church	0%	0%
	All Other Externals	16%	11%
Subtotal Inbound from Outside DC		100%	70%
			100%
From Anacostia Upper Southeast-Planning Area J To Within DC-Outbound:		Percent Within Each Section	Percent of All Outbound
A	Upper Northwest North	4%	3%
B	Upper Northwest West	4%	3%
C	Mid-City	4%	3%
D	Upper Northeast	6%	4%
E	Near Northwest	10%	8%
F	Central Washington	43%	31%
G	Capitol Hill	3%	3%
H	Anacostia Waterfront	13%	10%
I	East Washington	1%	1%
J	Anacostia Upper Southeast	12%	8%
Total Outbound Within DC		100%	74%
From Anacostia Upper Southeast Planning Area J To Outside DC (RACs and other):		Percent Within Each Section	
RAC Number	Regional Activity Center Name		
51	Alexandria	3%	1%
52	Balt-Washington	0%	0%
53	Beltway East	2%	1%
54	Bethesda	1%	0%
55	Dulles	1%	0%
56	I-270 Corridor	0%	0%
57	I-395 & I-95 Corridor	1%	0%
58	I-66 Corridor	2%	1%
59	Pentagon	10%	3%
60	Rosslyn	2%	1%
61	Silver Spring	1%	0%
62	Tysons	1%	0%
	All Other Externals	75%	20%
Total Outbound Outside DC		100%	26%
			100%

Appendix E

Average Vehicle Ridership (AVR) Ratio

The Average Vehicle Ridership is the ratio between the total number of passengers that pass by a specific road or corridor section and the number of (surface) vehicles that they use to travel over that section. Passengers include those using automobiles, buses, streetcars, and Metrorail, plus bicycles and walking if data are available. The greater the ratio, the more efficient is the use of the transportation infrastructure through the use of larger capacity vehicles such as buses or streetcars. This is a truly multimodal measurement of the current and future mobility that is afforded to the District's residents.

The AVR ratio is calculated at the corridor segment level as the minimum unit and then is aggregated as a corridor average for each of the different scenarios analyzed. The corridor average ranges from a minimum of 1.29 to a maximum of 2.18. A low value of 1.15 would indicate that the segment is used exclusively by autos whereas a higher number indicates how well a corridor is served by public transit. Theoretically, the AVR ratio for a bus transit-only corridor could have a value of 40 if every bus carried 40 passengers.

The ratio is calculated to reflect conditions during the peak hour peak direction of traffic, similarly to the LOS calculation carried out as part of the Land Use analysis.

Methodology

Estimation of the AVR for the Existing Scenario

The AVR calculation builds from the LOS analysis that was conducted for the vehicles. The procedure starts from an annual average daily travel (AADT) per segment figure, which includes vehicle trips for all surface modes (including buses). Then it applies the citywide average auto occupancy of 1.15 to estimate the existing number of passengers that utilize this mode.

Next, Berger estimated the existing transit ridership through the use of mode shares calculated from the MWCOG travel demand model by DMJM-Harris for travel within and between each of the 10 Planning Areas. This estimate includes Metrorail as well as Metrobus riders.

Finally both auto and transit passenger volumes were added to obtain the total passenger flow per each of the corridor segments. These are the total volumes that are divided over the total number of vehicles traveling on each segment to obtain the AVR ratio.

AVR for Future Scenarios

To estimate the future AVR ratio Berger used the future vehicle flows obtained from the MWCOG model that includes the proposed Land Use information from DC-OP. Next, the citywide average auto occupancy of 1.15 was multiplied by the number of future vehicles to estimate the future number of passengers that utilize this mode.

The future transit ridership is calculated using the methodology presented in the next section. The AVR for each of the future scenarios is calculated by estimating the total passenger flows determined by summing the auto and transit passengers over the number of vehicles used to transport them.

Future Transit Ridership

In summary, the future transit ridership has three components: 1) The trips that reflect the same mode share as in the existing condition; 2) a citywide increase to reflect the impact of general population growth, increases in congestion and impacts from transit oriented developments; and 3), segment specific ridership increases associated with the premium transit services being implemented in selected corridors.

In order to establish a baseline for all the future scenarios, Berger first estimated future transit ridership without any improvements. This assumes the same future mode share as in the existing condition. This implies that the number of transit passengers will increase or decrease at the same rate as the change in vehicle traffic associated with each segment (with traffic growth based on the MWCOC model and DCOP future Land Use estimates). A 4% transit increase was assumed for all corridors and future scenarios resulting from general population growth, increases in congestion levels and transit oriented development throughout the city.

WMATA is considering the implementation of premium services in five corridors, called near term priority corridors. These premium services imply higher transit service intensity; specifics will be more completely defined in future studies under the Alternatives Analysis. The three levels of service intensity are from low to high: Mixed Traffic (e.g., Rapid Bus), Limited Dedicated Guideway (e.g., Bus Rapid Transit) and Dedicated Guideway (e.g., Streetcar).

WMATA and DMJM provided ridership details on the three levels of service for the Alternatives Analysis. The study team then compared the ridership change between the Mixed Traffic and Dedicated Guideway alternatives for segments corresponding to the Corridors under study. Then the daily increase in transit ridership was calculated as a result of the implementation of the premium transit services. Berger assumed that 25% of the difference approximates the incremental number of trips that will take place during the peak hour in the corresponding segments. With the addition of the premium service transit volumes a future public transportation passenger base volume was established. For the analysis of all three future TDM/TSM scenarios the future public transportation passenger volumes is used as the base and is modified based on the different levels of TDM/TSM (discussed briefly below and in more detail under the Appendix on Levels of Service Methodology).

Adjustments to account for TDM/TSM

As indicated in the description of the Level of Service Methodology for vehicle traffic, there are a number of adjustments made to the vehicle and the passenger volumes.

One of these changes is the reduction in the number of vehicle trips as a result of the TDM/TSM measures. The TDM/TSM strategies were described for three scenarios –low, medium, and high. The estimated reductions in trips from the three scenarios were 2-4-6% respectively. It was estimated that the TDM/TSM strategies will shift approximately half of these trips shift to the off peak hours while the other half shift to transit during the peak period.

Therefore, based on the TDM/TSM measures Berger reduced the number of vehicles and increased the transit ridership (by half of the vehicle passenger reduction) in each of the corridor segments.

Results

The resulting AVR analysis indicated that all of the corridors are improving their passenger throughput and efficiency once the TDM/TSM measures and the Premium Transit services are implemented (see Table 3.7).

Appendix F

Level of Service (LOS) Analysis

The LOS analysis estimates how well the existing and future infrastructure accommodates current and future vehicle traffic volumes. The most critical time of the day corresponds to the peak hour in the peak direction of travel, when the highest volumes are observed and the infrastructure is most in demand. The peak hour is the time reference for our analysis.

In the case of the present analysis Berger used planning sketch tools to estimate peak hour volumes and infrastructure capacity. Based on assumptions of lane capacity for segments with or without left turning lanes and the estimated number of lanes operating presently and in the future, the study team was able to estimate a volume-to-capacity (V/C) ratio for each segment. Depending on the estimated V/C ratio, it was then determined if the corridor segments were under, at or over capacity.

Methodology

Existing and Future Peak Hour Peak Direction Traffic Volumes

The existing and future traffic volumes were obtained from the MWCOG travel demand forecasting model, which used as input the Land Use forecasts (households, population and employment) prepared by DC-OP for the District of Columbia. MWCOG Round 6.3 land use forecasts and traffic projections were employed for the remainder of the region as described in the Technical Report on Transportation for the District of Columbia, Section 3.3.1.

After running the model, the results for each corridor segment were summarized for AM, PM and Off peak periods.

To determine the peak hour of travel the study team added the volumes for the AM and PM peak hours of travel (3 in the AM peak and 3 in the PM peak) and divided them over six hours. Then to determine the peak direction of travel, all the corridor segments were surveyed and segments where there are reversible lanes were identified. In these segments Berger considered that even though there is directionality in the traffic, the additional lane(s) accommodate that effect. In the corridor segments without reversible lanes, the peak hour traffic was multiplied by 60% to represent the peak direction of traffic.

Vehicle Trip Reduction based on TDM/TSM measures

The proposed TDM/TSM measures will decrease the forecast number of vehicle trips according to the three scenarios considered. The trip reduction will vary depending on the intensity of the implementation of the TDM/TSM measures (which is what the three scenarios represent).

Of the trip reductions, half represent trips that shift from the peak periods of travel into the off peak period. The other half represents trips that shift to transit during the peak period. These trips are accounted for in the corresponding sections of the analysis so that their impact can be considered in the different modes and periods.

Lane Capacity

The existing number of lanes was obtained from site visits and indirect sources such as DDOT's Vision Plan and the MWCOC travel demand forecasting model. It is acknowledged that in many of the corridors the number of lanes and lane treatments (left turn bays, reversible lanes, etc.) vary from one portion of the corridor to another. The study team has applied our best judgment in identifying the predominant or average number of lanes in any given segment. In order to represent the future conditions the existing number of lanes was adjusted according to the plans established in DDOT's Vision Plan for each of the corridors.

Two levels of lane capacities were considered in the analysis, with the higher capacity level employed if the corridor segment has left turning lanes available. The two levels of lane capacities were increased in the analysis of the future conditions to reflect the additional capacity improvements presented in DDOT's Vision Plan such as parking lanes, moving the bus stops to the far side of the intersections, restricting parking and loading activities during day time or peak hours, adding left turn bays, restricting curb cuts, and extending curbs for bus pull-outs. The capacity increases ranged from 15 to 24% depending on the improvements in the corridor.

Levels of Service

Based on the volume-to-capacity ratio three levels of service were assigned: under, at or over capacity. An in-depth description of these levels is presented in Section 3.3.4 of the report (page 92).

Both at and over capacity represent significant congestion with system failure during the peak hour. As noted in the report, congestion can spur people to make use of available TDM services. Some people will seek relief from congestion by using transit, particularly surface transit on a dedicated right-of-way less susceptible to congestion (rapid bus, street car or light rail), or a separate right-of-way like the Metrorail service. Congestion also encourages people to shift the time of their trip making to off-peak hours where possible, or to reduce the number of trips through telecommuting, compressed work weeks, and similar strategies. The levels of service shown in this analysis represent the "first brush" of the current MWCOC model with anticipated volumes of traffic, the TDM/TSM scenarios and the anticipated roadway capacity. They do not include the changes in trip making patterns that occur over time as people continue to find their ways around congested locations. However, in some cases, future studies may be necessary to identify TSM mitigation measures (beyond those proposed in the DDOT Action Plan) that may be required for specific intersections or roadway segments to ease perennial congestion problems.